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Concepts and Techniques in Modern Geography

An Introduction To Market Analysis

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Acknowledgements

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1. Introduction

Many commentators have noted that we are living and working in the Information Technology age. The 1990's and the twenty-first century will be characterised increasingly as a knowledge-based economy and society. Information has become a strategic resource that must be managed and it is now a tradeable commodity of value. New information-based industries are being established, such as the myriad of so-called Value Added and Data Services. Data and communications are the strategic resources of the "information era".

Much geographical study attempts to describe and interpret the pattern of facility location and service distribution. Examples range from health care delivery in the public sector, such as the location of hospitals, general practitioners and the effective distribution of emergency services, to the private sector applications of shopping, warehousing and distribution. Briefly, in terms of demand and supply over space, there is an uneven geographically distributed demand for products and services that has to be supplied from a number of locations with facilities of different sizes offering various ranges of products and services. Consequently, it is important to be able to describe adequately the spatial pattern of consumer demand and to consider appropriate spatial patterns of supply to satisfy the demands. Should we have a large number of small branches or a few centralised large branches?

The purpose of this monograph is to provide an introductory overview of market analysis (sometimes referred to as _"geodemographic"_ analysis), a distinctive industry which is now providing important career opp--r·unities for geographers, regional scientists and operational researchers. Since the mid-1970's, an industry has developed in Britain which is now over 20 million pounds per annum in size. Leading British companies are listed at the end of this monograph's references. Spatially disaggregated market analysis has become essential for companies to be able to plan both tactically and strategically with regard to customers' needs and competitive threats.

While the applications areas are dependent on data and analysis, at the outset, it is important to appreciate that, unlike the material covered in the majority of CATMOGs, the discussion here is not about a technique or quantitative method per se. The Census of Population is the important database for many applications, particularly when linked with market research data; a range of spatial analytic techniques are used. The orientation here is aimed at an appreciation of the whole area, rather than a deep comprehension of the various methodologies used (which are covered in other CATMOGs).

Information is required for sound decision-making. Indeed, management require more (or, at least, more pertinent) information, more quickly and cheaply. At the outset, it is important to recognise the fundamental distinction between raw data and useful and actionable information. Information is a contextual input in management's decision-making process, and it involves some manipulation/analysis of raw data. While the potential of IT to assist management is usually highlighted, it must be stressed that real dangers of "data overload" exist because of advances in automatic data capture technologies. It can be argued, in fact, that further data collection by itself, without explicit structuring, will not provide the firm foundation for effective decision-making.

The business world is characterised by increasing competition, and much greater attention is being given to market dynamics and strategic position. This external orientation is exemplified by the growing importance of the marketing function. Indeed, while the storage of data for billing and transaction purposes will continue to remain important, the important application areas relate to the strategic use of this data for business development planning. This increased attention on marketing can be expected to continue, not only because of the greater incidence of consumer-led markets, but also because of a range of other factors including increasing affluence, international branding (Single European Market by 1992) and shorter product lives.

For marketing purposes, it is necessary to be able to describe and to locate the target market. A range of fundamental questions must be answered for marketing management, including:

- who?   - are our customers?
  - should our customers be?
  - are our competitors?
- what?   - new/existing products and services should we develop?
  - new/existing markets should we enter?
- where? - should we develop?
  - are our customers?
  - should we distribute our products and services?
  - are our competitors?

With a variable measuring "disposable income" unavailable in Britain, the Census of Population, which provides a comprehensive description of the socio-economic and demographic profile of households, offers the foundation for assessing local market demand for different products and services by household type. In the next section, brief reference is made to the Census, which is the major secondary source of data for market analysis; however, its geography of Enumeration Districts is not particularly suitable and alternative geographies of market analysis are considered. This discussion provides the spatial backcloth against which real descriptions/neighbourhood classifications are produced. The development of so-called "geodemographic discriminators" is outlined in Section 3; reference is made to the derivation of specific discriminators, briefly describing the Census variables input, the multivariate analyses and the resulting classifications. From this background, four different, generic application areas are presented as illustrations. In the final section, some concluding comments are made about the future outlook for this industry.

2. Census of Population Data and Postal Geography

The UK Census of Population is covered by Dewdney (1981; 1984). In the context of this discussion, in addition to indicating some of the variables that are used in analyses (see the next section), it is also important to describe the geography of the Census of Population.

The geography of the 1981 Census of Population comprises approximately 130,000 Enumeration Districts, each consisting of approximately 150 households (see also Rhind (1983) for more details). However, the geography of the business world is not Enumeration Districts, which were specified for data collection purposes and linked to local government administration. Postal geography, which was devised to enable The Post Office automatically to sort and deliver mail in the United Kingdom, is more relevant and useful for market analysis; addresses are where customers/potential customers reside, and, therefore, they are the locations on which marketing activity is focussed.

In the postal geography system, the seven alphabetic and numeric characters define four hierarchical levels of spatial units:

- areas;
- districts;
- sectors;
- postcodes.

Figure 1 provides an idealised representation of these levels. Excluding the Large User Postcodes which are unique because the particular address, for say a company, receives large quantities of mail each day, each Small User Postcode comprises approximately 15 addresses (although this number varies, such as across rural and urban areas). Table 1 presents average household/population sizes for different spatial units in the postal geography system.

```
Table 1:  A Summary of Small User Postcodes
                 Areas       Districts      Sectors      Postcodes
Number             120         2,700        8,900        1,500,000
Households     183,000         8,150        2,500             14.7
Population     466,000        20,750        6,300             37.3
MK42  9WA           MK            42            9               WA
```

From a Geographic Information System (GIS) perspective, it is important to appreciate that, although postal geography is an accepted referencing system and is in widespread use, postcodes are only collections of delivery points or addresses (and, therefore, they do not provide a comprehensive coverage of the country identifying a full range of features of interest to geographers, such as lakes, rivers and so on).

For market analysis, the linkage between postcodes and the Ordnance Survey national grid reference system means that postcodes become locationally flexible (for a broader discussion

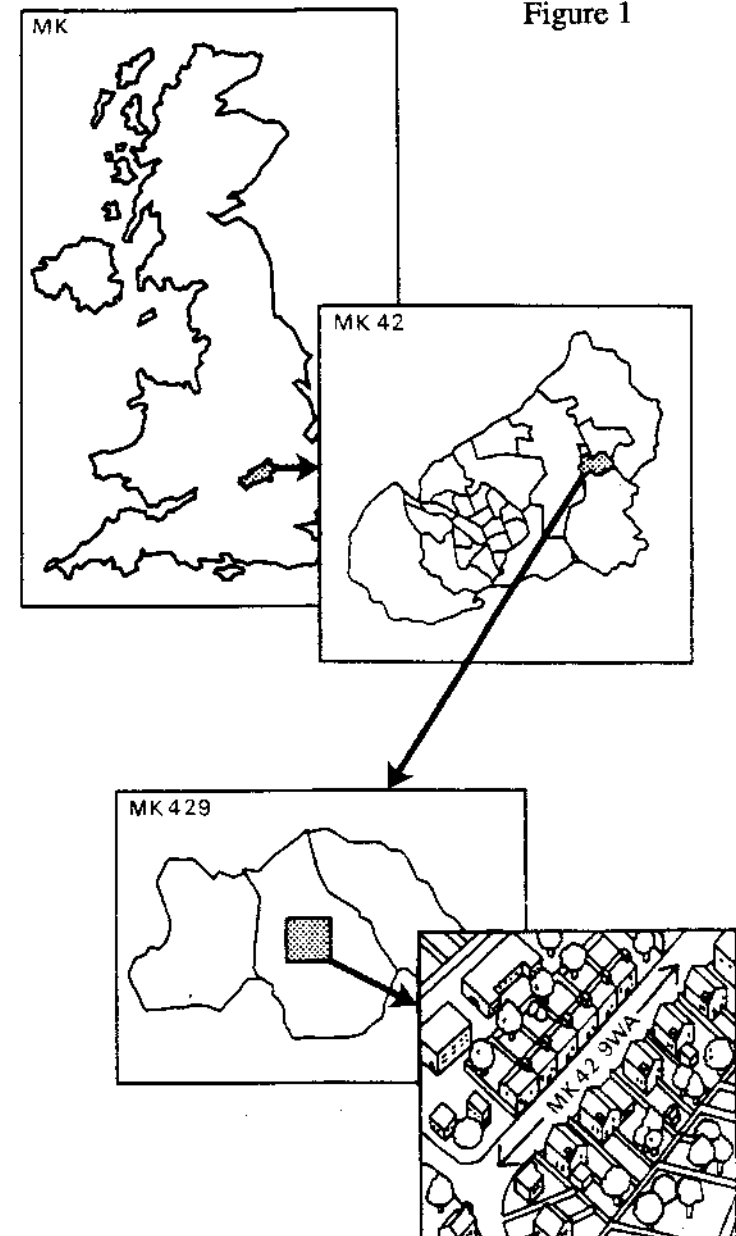Operation of the postcode

Figure 1

of the handling of geographic information, see Department of the Environment (1987)). The Post Office's Central Postcode Directory (CPD), provides the intermediate database for the locational linkages. (Both the CPD and the Post Office Address File (PAF) are also available from the ESRC Data Archive at the University of Essex).

In terms of locational referencing, the CPD provides the Ordnance Survey national grid reference for the first address in each postcode (to a supposed accuracy of 100 metres resolution in England and Wales and of 10 metres resolution in Scotland). Thus, if each postcode is referenced by a National Grid twelve figure coordinate and each census Enumeration District centroid is also referenced by a National Grid coordinate, by simple proximity analysis, Enumeration Districts and postcodes can be linked so that it is possible to know approximately which postcode is in which Enumeration District. While this linkage is derived computationally (and some inaccuracies exist (see OPCS (1987) for a commentary on CDP inaccuracies and Openshaw (1989) on proximity analyses), data collection enhancements are being undertaken to provide greater accuracy. For example, Pinpoint are establishing a database, the Pinpoint Address Code (PAC), with a twelve figure grid reference for each address on the Post Office Address File (PAF) (see Sleight and Leventhal (1989) for more details of PAC and a comparison with the CPD). As with any GIS-based applications, issues of spatial resolution and accuracy cannot be neglected (Gatrell 1989).

The National Grid reference-based spatial linkage mechanism is necessary in practice because other types of geographies are also important in market analysis. Any defined area of interest can be digitised by reference to the Ordnance Survey National Grid; census-based market analysis can then be undertaken. For detailed working, it is possible to cover Britain with a grid down to a half kilometre resolution and provide census-based statistics for each square (It is noted that data from the 1971 Census of Population were provided directly for both Enumeration Districts and one kilometre grid squares) (see, for example, Evans (1979) and the BBC Domesday videodisk (Owen et al (1986)). For historical and organisational reasons, many companies have their own sales and administration territories; these can be digitised, allowing the allocation of Enumeration Districts to describe the households' socio-economic and demographic profile and the market potential in the different territories. The determination of a branch or shopping centre catchment area, the area from which customers patronise a specific branch or shopping centre, is also an important application area (see Section 4 for more discussion). While catchment areas are obviously spatial phenomena, patronage of specific branches or centres can be dependent on time-distance (see Thrift (1978)); the differentiation between car owning and non-car owning households is obviously important. Microcomputer route planners, giving travel time and distance estimates between different locations by different routes, are now marketed by a number of companies. The Automobile Association now has a complete computer aided cartography service, AUTOMAPS, and, also operates a real time roadwatch and weatherwatch local information system.

In addition to the derivation of bespoke geographies, a range of standard geographies are available from the companies offering market analysis services. These include:

- postal geography:
  - areas;
  - districts;
  - sectors;

- public sector/planning geographies:
  - parliamentary constituencies;
  - local authorities;
  - health authority regions and districts;
  - (standard) economic planning regions;
  - Office of Population Censuses and Surveys (OPCS) urban areas;
  - travel-to-work areas;

- media geographies:
  - Independent Local Radio Station areas;
  - Incorporated Society of British Advertisers regions;
  - Broadcasters' Audience Research Board regions;
  - "Plumby Brick" system for sales and distribution;

- retail geographies:
  - CACI's Local Expenditure Zones;
  - CACI's Shopping Centre Planner's 'primary', 'secondary' and 'tertiary' catchment areas ;
  - drive time isochrones.

3. Geodemographic Discriminators

If market analysis is about locating and describing a target market, in practice the description of the target market is driven currently by the use and analysis of Census of Population data. The geodemographics industry developed originally by providing summary descriptions of the socio-economic and demographic profile of households in individual Census Enumeration Districts and by allocating postcodes to the Enumeration Districts. Some applications involve the use of single Census variables. For instance, to market baby and young children's toys, a single age variable from the Census data, say 0 - 4 years old, could be appropriate to identify areas of relatively high concentrations of potential consumers.

However, single variables are often inappropriate to capture the varied socio-economic and demographic dimensions of households' profiles. While much progress has been made through the use of social class classifications, such as AB ("professional and managerial"), Cl ("intermediate and junior non-manual"), C2 ("skilled manual"), and D ("semi-skilled and unskilled manual") and E ("those at the lowest level of subsistence"), the focus of this discussion is on the growing application of so-called "geodemographics" for market analysis. More specifically, attention is concerned primarily with applications involving residential neighbourhoods as the potential target markets for both public and private sector services; for completeness, it is noted that parallels in approaches and databases exist within the business-to-business marketing industry.

In this section, the development and derivation of different geodemographic discriminators is described chronologically. Comparisons between different systems are noted, and brief attention is given to their updating as the 1981 Census becomes more dated. Linkages with market research data have represented a key "added value" of geodemographic discriminators, and this is considered along with the increased tendency to derive "bespoke" discriminators. Finally, to complete the foundation prior to a discussion of applications in the next section, reference is made to some recent developments that extend the usefulness of geodeomographic discriminators in practice.

3.1 Development of Geodemographic Discriminators

Classification is the fundamental way to provide coherence and consistency in a description of the complexities of the real world. In market analysis, it is required to be able to offer simple summaries of similar and different neighbourhood areas.

While there is no such thing as a single classification for a particular database, area or set of phenomena of interest, the power of the application of such descriptions has been demonstrated by private sector marketing services companies. (See Johnston (1976) for a general discussion of classification in geography; in relation to different taxonomic procedures, see Daultrey (1976) and Goddard and Kirby (1976) for a discussion of principal components analysis and factor analysis, respectively). In spite of the application of formal methodologies, the resulting classifications are subjective. In the derivation of geodemographic discriminators, subjectivity occurs in the selection of original Census variables for analysis, in the choice of method(s) employed in the analysis, in the final preference for a particular multi-level result, and in the brief description labels attached to each category.

An early example of geodemographic analysis was Moser's (1%1) statistical study of the social and economic differences of British towns. At the end of the 1970's, a range of national classifications was generated at different spatial (Ward- and Enumeration District-) scales (Webber (1978, 1979)). Their development was driven by public sector, rather than private sector, requirements, particularly in terms of policy analysis with regard to deprivation and social stress (see also Bentham (1985)). These classifications provided multivariate descriptions of neighbourhoods, offering a consistent summary of residential areas in terms of their households' socio-economic and demographic profiles. While criticisms of this work focussed on the taxonomic procedures employed and the lack of underlying theory (see, for example, Openshaw et al (1980)), the usefulness and relevance of being able to differentiate household types in a meaningful way was recognised to be important for marketing.

CACI Market Analysis became the first commercial company to resupply Census data and to provide a geodemographic discriminator for marketing purposes. Initially, a ward-based system, ACORN ("A Classification of Residential Neighbourhoods"), was developed at the Centre for Environmental Studies (CES) using 1971 Census of Population data for market segmentation. It was hierarchical in nature, with two levels of description: seven families which were further subdivided into thirty-six clusters. After CES was disbanded by the Government, CACI continued the work and derived an Enumeration District-level system by individually allocating these base spatial units to the most suitably defined cluster (see CACI (1980) for more details).

With the availability of the 1981 Census of Population, it was necessary to update ACORN while maintaining some consistency for comparisons over time. The 1981-based ACORN, which was developed at the Enumeration District scale, exists at two levels: eleven groups which are further subdivided into thirty-eight types. A range of descriptive labels assist the marketeers: "affluent suburban housing" neighbourhoods can be differentiated as "inter-war semis, white collar workers", "spacious inter-war semis, big gardens", "villages with wealthy older commuters" and "detached houses, exclusive suburbs" (see CACI (1983) for more details and Figure 2 and Table 2 for a summary description of 1981 ACORN).

It is important to appreciate that an Enumeration District is a base spatial unit and it is assumed to be homogeneous in terms of its households' profile; that is, all households in a single Enumeration District are-deemed to have the same characteristics and are given the same classification. The degree of household homogeneity within a neighbourhood type varies across all the geodemographic discriminators. Moreover, for certain activities, practical experience has shown that the behavioural response of households of the same neighbourhood type differs regionally.

Figure 2

1981 ACORN Groups

A	Agricultural areas	3.3
B	Modern family housing, higher incomes	14.8
C	Older housing of intermediate status	18.7
D	Poor quality older terraced housing	4.6
E	Better-off council estates	12.2
F	Less well-off council estates	10.4
G	Poorest council estates	6.8
H	Multi-racial areas	3.5
I	High status non-family areas	4.9
J	Affluent suburban housing	15.9
K	Better-off retirement areas	4.8
		100.0

1981 ACORN Types

A 1	Agricultural villages	2.5
A 2	Areas of farms and smallholdings	0.8
B 3	Cheap modern private housing	3.7
B 4	Recent private housing, young families	2.9
B 5	Modern private housing, older children	5.4
B 6	New detached houses, young families	2.3
B 7	Military bases	0.4
C 8	Mixed owner-occupied and council estates	4.0
C 9	Small town centres and flats above shops	4.4
C10	Villages with non-farm employment	4.7
C11	Older private housing, skilled workers	5.7
D12	Unimproved terraces with old people	2.8
D13	Pre-1914 terraces, low income families	1.4
014	Tenement flats lacking amenities	0.4
E15	Council estates, well-off older workers	3.5
E16	Recent council estates	2.2
E17	Council estates, well-off young workers	4.5
E18	Small council houses, often Scottish	2.0
F19	Low rise estates in industrial towns	4.6
F20	Inter-war council estates, older people	3.5
F21	Council housing for the elderly	2.2
G22	New council estates in inner cities	2.2
G23	Overspill estates, high unemployment	2.7
G24	Council estates with overcrowding	1.4
G25	Council estates with worst poverty	0.5
H26	Multi-occupied terraces, poor Asians	0.3
H27	Owner-occupied terraces with Asians	0.9
H28	Multi-let housing with Afro-Caribbeans	0.7
H29	Better-off multi-ethnic areas	1.7
130	High status areas, few children	2.3
131	Multi-let big old houses and flats	1.9
132	Furnished flats, mostly single people	0.7
J33	Inter-war *semis,* white collar workers	6.1
J34	Spacious inter-war semis, big gardens	4.9
J35	Villages with wealthy older commuters	2.8
J36	Detached houses, exclusive suburbs	2.1
K37	Private houses, well-off elderly	2.7
K38	Private flats with single pensioners	2.1
U39	Unclassified	0.1
		100.0

Source: CACI Market Analysis

Not surprisingly, other companies have developed their own geodemographic discriminators to compete with ACORN. Recognising CACI's original development, a number of competing companies have also developed geodemographic discriminators of a hierarchical nature since 1985 (see, for example, Webber (1985)). Today, the principal other British systems are:

- CCN Systems' MOSAIC database;

- Credit and Data Marketing Services' (CDMS) SUPER PROFILE;

- Pinpoint Analysis Limited's PiN (Pinpoint Identified Neighbourhood) types;

- Readers Digest's PEGASUS system.

It is noted that SUPER PROFILE was developed partly under a research grant, and it is also available through the ESRC Data Archive at the University of Essex (see Charlton et al (1985)). SUPER PROFILE has the largest number of different neighbourhood types (up to 150), and, therefore, might be expected to offer greater precision than systems with only 38, 54 or 60 types.

While the specific methodologies used to derive the discriminators are different, they are founded on a subjectively chosen set of raw 1981 Census variables that are used to describe/classify neighbourhoods as "similar" or "dissimilar". Users and potential users of geodemographic discriminators, in practice, are confused about the advantages/disadvantages of, and differences between, the alternative classification systems. It is not a statistical or technical issue; the power of any system is dependent on its application and often its cross-referencing with other, market research data.

> "An overwhelming conclusion, based on analysis of over 100 product fields ... is that there is no best system, indeed the choice of system is in many ways academic. By their very nature the various neighbourhood classification systems as generic and each offer similar power " (Humby, 1989, page 5 . (See also Openshaw (1989) and Sleight and Leventhal (1989)).

However, given the confusion about which system is the most useful and relevant (see, for example, Oliver (1987)), there is some cogency in the argument that, for the 1991 Census of Population,

> "... it would be of tremendous benefit to the industry to have a standard basic set" (Humby, 1989, page 72)."

Tables 3a and 3b present the forty variables underlying ACORN and the 104 variables underlying Pinpoint's Identified Neighbourhood (PiN) types, respectively. Using the 104 census variables, the PiN types were derived by firstly using principal components analysis to summarise the interrelated multivariate structure and then by employing a clustering algorithm to classify the Enumeration Districts. A three-level hierarchical solution has been marketed: 12-levels are sub-divided into 25 levels, which, in turn, are further subdivided

Table 3a: Definitions of variables used in ACORN system

Unemployment: All residents seeking work/Econ. Active Residents
Women in full time work: Full time working married women aged 16-59/Married female residents aged 17-59
Students: Residents in private households students 19-24/Residents in private households aged 16
One vehicle households: Households with 1 car/private households with residents
Two+ vehicle households: Households with 2+ cars/private households with residents
Four+ child households: Households 4+ children under 15/private households with residents
Afro-Caribbean born: Residents born in Africa or New Commonwealth /all residents
Indo-Pakistani born: Residents born in India, Pakistan, Sri Lanka, Bangladesh/all Residents
Aged 0-4: Residents aged 0-4/all residents
Aged 5-14: Residents aged 5-14/all residents
Aged 15-24: Residents aged 15-24/all residents
Aged 25-44: Residents aged 25-44/all residents
Aged 45-64: Residents aged 45-64/all residents
Aged 65+: Residents aged 65+/all residents
Population married: Married residents 16+/all residents
Single non pensioners: Private households with single non-pensioners/private households with residents
Persons/household: Residents in private households/total private households
Rooms/household: Total rooms/private households with residents
Owner occupied: Dwellings owner occupied/permanent dwellings
Council + H association: Dwellings rented from local authority or housing association/permanent dwellings
Unfurnished rented: Dwellings unfurnished rented, tied or rented with business/permanent dwelling
Furnished rented: Dwellings furnished rented/permanent dwellings
1.5+ persons/room: Households living at over 1.5 or more persons per room/total households
1.0-1.5 persons/room: Households living at over 1.0 but not greater 1.5 persons per room/total households
Rooms/person: Total rooms/total households
Shared amenities: Households sharing one or more amenities/total households
No inside WC: Households lacking the use of an inside WC/total households
No bath: Households lacking the use of a bath/total households
Seven+ room dwelling: Households with seven or more rooms/total households
One/two room dwelling: Household with one or two rooms/total households
Walk to work: People travelling to work on foot/residents in work aged 16+
Pub transport to work: People travelling to work by bus, tube, train/residents in work aged 16+
Manufacturing workers: People employed in manufacturing or mining/residents in work aged 16+
Agricultural workers: People employed in agriculture/residents in work aged 16+
Service workers: People employed in services/residents in work aged 16+
Professional workers: Professional and managerial workers/residents in work aged 16+
Non manual workers: Non manual workers/residents in work aged 16+
Skilled manual workers: Skilled manual workers/residents in work aged 16+
Semi skilled: Semi skilled workers/residents in worked aged 16+
Unskilled: Unskilled workers/residents in work aged 16+

Source: CACI Market Analysis

Table 3b: STANDARD 104 CENSUS VARIABLES IN CENTRY

AGE GROUPS

01	0-4 yrs	02	5-9 yrs	03	10-15 yrs
04	16-19yrs	05	20-24 yrs	06	25-34 yrs
07	35-44 yrs	08	45-54 yrs	09	55-64 yrs
10	65 + yrs				

BORN IN

11	Irish Rep	12	Old Commonwealth	13	Africa, Caribbean
14	India, Bangladesh,Pakistan				
15	Married	16	Economically active seeking work	17	Retired
18	F. 16. 'econo' inactive (h/wives)	19	1. move house in last year	20	Married women working full-time
21	Married women working part-time	22	Students aged 18-24	23	Aged 16-24 out of employment
24	Degree, prof. other qualif.				

HOUSEHOLDS

25	Owner occupied	26	Council or Housing Assn rented	27	Rented with business
28	Other rented furnished	29	Lacking bath	30	Lacking inside WC
31	Sharing bath and/or inside WC	32	Lacking bath and inside wC	33	with >≡
34	with 1 to 1.5 person per room				

TOTAL

35	Rooms per household	36	Persons per household	37	Rooms per person

HOUSEHOLDS WITH

38	No car	39	One car	40	Two cars
41	Three or more cars	42	With one room	43	Two rooms
44	Three rooms	45	Four rooms	46	Five rooms
47	Six rooms	48	Seven or more rooms		
49	No children 0-15	50	Children aged 0-15	51	1 or more children 0-4
52	1 or more children 5-15	53	2 or more children, mixed ages		
54	2. econ-active adults no child.	55	2+ econ-active adults • children	56	4 or more children 0-15
57	Single non-pensioners living alone	58	Pensioners only		

EMPLOYED IN

59	Agriculture	60	Energy/Water	61	Manufacturing
62	Construction	63	Distribution/Catering	64	Transport
65	Other Services	66	Work outside district of residence	67	Finance
68	Public admin. & other services	69	Agri (exl forestry & fishing)		

TRAVEL TO WORK

70	By car pool	71	As car passenger	72	As car driver
73	By bus	74	By BR	75	By underground
76	By motorcycle	77	By pedal cycle	78	On foot

SOCIO ECONOMIC GROUPS

79	SEG 01	80	SEC 02	81	SEC 03
82	SEC 04	83	SEC 05.1	84	SEG 05.2
85	SEG 06	86	SEG 07	87	SEG 08
88	SEG 09	89	SEG 10	90	SEG 11
91	SEC 12	92	SEC 13	93	SEC 14
94	SEG 15	95	SEC 16	96	SEG 17
97	Social class I	98	Social class II	99	Social class III *N*
100	Social Class III M	101	Social class IV	102	Social class V
103	Armed Forces	104	Retired		

Source: Pinpoint Analysis Limited

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into 60 levels. Pinpoint's Wealth Indicator (which was derived from the principal components analysis used to develop their geodemographic discriminator PiN) is a single index ranging from 0 to 100; the top 10 per cent of Enumeration Districts are mapped as Figure 3.

It is noted that CCN Systems developed MOSAIC by integrating different credit-related databases with Census data, which only account for 46 per cent of the weighting in their 58 neighbourhood types which are then grouped into 10 lifestyle categories. In addition to the lack of complete reliance on the Census, the MOSAIC system was developed at the postcode, rather than Enumeration District, level by incorporating postcode data on consumers' financial behaviour which is available because CCN is one of the UK's leading credit reference agencies. Within each Enumeration District, there are approximately ten postcodes, and, therefore, analysis at this spatial scale should capture variations which are averaged out by analysis of Enumeration Districts (although the Census data are still at the Enumeration District scale).

The homogeneity of a specific neighbourhood type varies. For example, PiN type i, "Council Flats with Pensioners", describes neighbourhoods comprising primarily, although not exclusively, pensioners living in council flats; there can be non-pensioners living in owner occupied housing. To illustrate this point, in Table 4, an index is used as a summary indicator of the values of specific Census variables in all Enumeration Districts classified as "Council Flats with Pensioners". A value of less than 100 indicates below the national average incidence, and a value of greater than 100 indicates above the national average.

Table 4:   "Council Flats with Pensioners":   Indexes for Selected
         Census Variables

Age:	Index
- 0 - 4 years:	53
- 5 - 9 years:	48
- 10 - 15 years:	53
- 16 - 19 years:	65
- 20 - 24 years:	80
- 25 - 34 years:	62
- 35 - 44 years:	61
- 45 - 54 years:	97
- 55 - 64 years:	158
- 65 + years:	225

Accommodation:	
- owner occupied:	23
- council:	248
- rented with business:	48
- other rented furnished:	31

Source: Pinpoint Analysis Limited

TOP 18 % OF ENUMERATION
=========================
DISTRICTS BY WEALTH SCORE
=========================

Scale is 1:3364964

△   ENUMERATION DISTRICT

Figure 3

FINPOINT

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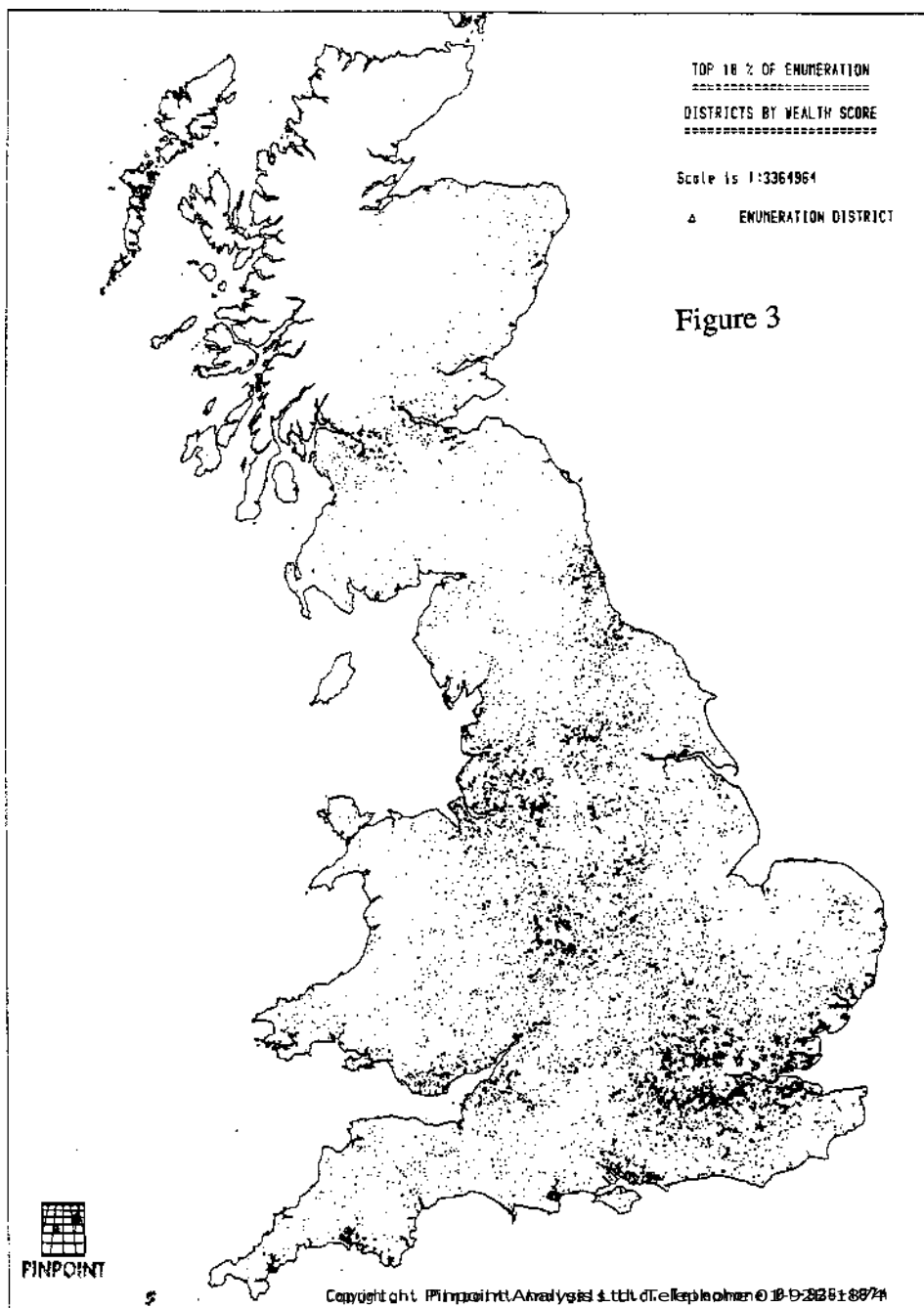
In addition, for the different geodemographic discriminators, neighbourhood types with similar descriptive labels do not represent identical area Rothman (1989), for instance, compared the ACORN, PiN and MOSAIC categorisation of a sample of respondents to the National Readership Survey. For ACORN B ("Modern Family Housing, Higher Incomes"), PiN C ("Upwardly Mobile Young Families") and MOSAIC L9 ("Young Families with Mortgages"), Table 5 demonstrates that the neighbourhood types are not identical, although they have some common characteristics of young families residing in newer, up-market housing. For example, from the ACORN B respondents, 70 per cent and 58 per cent of these respondents also lived in PiN C and MOSAIC L9, respectively.

Table 5: Young Families Residing in Newer, Up-Market Housing
Percentage of Respondents living in:

	Total Population	ACORN B	PiN C	MOSAIC L9
Who live in:				
ACORN B	16	100	76	60
PiN C	14	70	100	57
MOSAIC L9	15	58	60	100

Source: JICNARS (July 1986 - July 1987), from Rothman (1989).

3.2 Updating

As the decade progresses, the 1981 Census obviously becomes more out-of-date. While the derivation of the geodemographic discriminators is founded on 1981 data, CACI, for instance, now provide 1987 population and household counts disaggregated by age, sex and location. For household and population forecasting, Government's official updates at local authority district level are employed, such as data on actual births and deaths and changes in the electorate (which show in- and out-migration). A single-year cohort survival model is used for the ageing process, and the output estimates are constrained to the official mid-year estimates (using an iterative procedure which takes account of the variations in age structure across wards). The basic model operates at a Ward level and the estimates are "spread" to Enumeration Districts. Small area household estimates are generated by applying national age-specific headship rates to the updated population. Local correction factors are calibrated by comparing actual and predicted households in 1981.

While simple scaling of existing geodemographic discriminators can be undertaken, it would be wrong to suggest that household structures are remaining constant. CACI have

established a Board of Demographers to undertake detailed annual updating of Census data. The orientation is towards satisfying the marketeers' requirements: the decline of the teenage market; the gentrification of some inner cities, especially in London and the South-Fast, and so on. Given the costs of additional Censuses, hundreds of millions of pounds, it must be acknowledged that this only accurate means of updating is a non-starter. In practice, as a consequence, the efforts must be directed towards the areas of rapid change, such as Milton Keynes, London Docklands and inner Glasgow. The use of other, non-Census databases, such as credit references, are proving helpful. For example, CCN use their continually updated credit-related databases to track population movement. In the derivation of MOSAIC,

> "... seeing that 9.4% of UK addresses fell in postcodes which had been added to the Postal Address File since the date of the last Census, it was felt that other data sources might have something useful to say about what types of people now lived in them" (Webber, 1989, page 105).

In addition to these data-driven approaches to updating, computer-based forecasting is also being undertaken. For example, micro-simulation models of household dynamics are being developed (see, for example, Clarke (1986)). A range of complex and interdependent processes exist that cause household composition to change; such unfortunately common events as unemployment and divorce, which are not purely demographic processes, do have direct repercussions on the form or even disintegration of households, which, in turn for marketing purposes, changes their demand for products and services.

3.3 Linkages with Market Research Data

An important factor behind the enhanced usefulness of geodemographic discriminators is their linkage with market research data. Marketing management need to have an estimate of local market size and consumer expenditure patterns, rather than simply an indication of the number of households of different types. For example, the creation of information about spatial variations in the market potential for different products and services has resulted from linkages with Financial Research Services, the National Readership Survey and the Target Group Index. Although approached differently because of their use of raw Census data (rather than summarised neighbourhood types), local area estimates of consumer spending potential on different products and services at various retail store types are also available through linkages with the Government's annual Family Expenditure Survey. Such methods of estimation have to be used because the original data do not provide detailed disaggregation by local area which is essential for business planning and market analysis.

As an indication of the types of linkage between geodemograhic discriminators and market research data, Tables 6a, 6b and 6c summarise the pattern of average issue readership for the Daily Express, the Daily Mirror and the Financial Times, respectively. These descriptions use SUPER PROFILE on the National Readership Survey, and clear comparisons are self-evident from these customer profiles

Table 6a: AVERAGE ISSUE READERSHIP
Publication: DAILY EXPRESS   Base: All Adults

Type	Description	DAILY EXPRESS 000's	%	BASE t	INDEX	COVER s
A	Affluent Minority	469	11.22	9.41	119	11.06
B	Metro Singles	230	5.50	4.51	121	11.31
C	Young Married Suburbia	344	8.01	7.00	114	10.61
D	Country & Retiring Suburbans	578	13.82	10.45	132	12.27
E	Older Suburbia	495	11.85	10.86	109	10.12
F	Aspiring Blue & White Collars	536	12.83	11.44	112	10.41
G	Multi-Ethnic Areas	232	5.55	5.82	95	8.84
H	Fading Industrial	330	7.89	10.50	75	6.97
I	Council Tenants	617	14.76	17.41	84	7.87
J	The Underprivileged	205	4.91	8.68	56	5.24
K	Unclassified	51	1.22	1.44	85	7.88
	Total	**4182**				
A01	Middle Aged Families in Exclusive Suburbs	185	4.44	3.72	119	11.07
A02	Older Families in Select Suburban Property	56	1.35	0.88	152	14.16
A03	Expensive City Centre Flats/Apartments	79	1.89	1.83	103	9.60
B04	Young Professionals in Bed Sitters	121	2.92	2.46	118	11.01
CO5	Younger Families in Suburban Detached	20	0.48	0.70	68	6.37
806	Older White Collar Flat Dwellers	40	0.97	0.85	114	10.61
807	Young Single White Collars in Rented Property	68	1.64	1.21	135	12.58
A08	Middle Aged Families in Up-Market Semis	149	3.57	2.98	119	11.11
C09	Younger Families in Larger Semis	243	5.81	4.56	127	11.81
C10	Young Well-To-Do in High Turnover Semis	72	1.73	1.73	100	9.31
E11	White Collar Family Pensioners	138	3.30	3.40	97	9.01
E12	Single White Collar Pensioners	210	5.04	3.85	130	12.13
G13	Young Multi-Ethnic White & Blue Collar Families	81	1.94	1.87	104	9.67
D14	Affluent Farming Communities	61	1.47	1.18	125	11.62
F15	Lower Middle Class Metropolitan Semis	118	2.84	2.36	120	11.15
F16	Military Families	192	4.60	3.87	119	11.04
D17	Older and Retired Better Off Rural Workers	231	5.53	4.18	132	12.27
F18	Lower Middle Class in Provincial Semis	24	0.58	0.34	172	15.99
019	Less Affluent Rural Workers and Pensioners	286	6.85	5.10	134	12.45
E20	Middle Aged White Collar Couples	147	3.53	3.61	97	9.07
F21	Upper Working Class in Council Housing	131	3.15	2.21	142	13.25
F22	Upper Working Class in Semis and Terraced	71	1.71	2.67	63	5.93
H23	Unskilled Families Inner City Conversions	94	2.25	3.14	71	6.64
H24	Skilled and Semi-Skilled in Improved Terraced	20	0.49	1.91	25	2.38
G25	Unskilled Ethnic Families in Council Flats	86	2.07	2.53	81	7.59
H26	Skilled and Semi-Skilled in Poorer Terraced	216	5.18	5.45	94	8.81
127	Middle Aged and Older Couples in Council Flats	67	1.62	1.72	93	8.71
128	Blue Collar Workers in Established Council Houses	117	2.81	2.32	120	11.22
129	Blue Collar workers with High Unemployment	167	4.00	4.79	83	7.75
130	Low Income Older Families in Council Flats	92	2.22	2.49	89	8.27
131	Mature Blue Collar Workers in Mining Areas	51	1.22	1.45	84	7.79
G32	Large Ethnic Families in Cramped Terraced Property	65	1.56	1.43	108	10.10
J33	High Unemployed Semi/Skilled in Council Houses	137	3.30	4.18	78	7.31
J34	Very Low Income Council Houses	123	2.96	4.64	63	5.91
J35	Highly Unemployed in Crowded Council Houses	38	0.91	2.19	41	3.87
J36	Large Unemployed Families in Cramped Council Flats	30	0.72	2.31	31	2.89
K37	Unclassified	51	1.22	1.44	85	7.88
	Total	**4182**				

Table 6b: AVERAGE ISSUE READERSHIP
Publication: DAILY MIRROR   *Base:* All Adults

Type	Description	DAILY MIRROR 000's	%	BASE %	INDEX	COVER %
A	Affluent Minority	346	4.01	9.41	42	8.17
B	Metro Singles	266	3.09	4.51	68	13.12
C	Young Married Suburbia	497	5.75	7.00	82	15.76
D	Country & Retiring Suburbans	1003	11.61	10.45	Ili	21.29
E	Older Suburbia	763	8.83	10.86	81	15.59
F	Aspiring Blue & white Collars	1093	12.65	11.44	110	21.20
G	Multi-Ethnic Areas	510	5.91	5.82	101	19.46
H	Fading Industrial	1194	13.82	10.50	131	25.23
I	Council Tenants	1687	19.53	17.41	112	21.50
J	The Underprivileged	990	11.46	8.68	132	25.30
K	Unclassified	113	1.32	1.44	91	17.59
	Total	8642				
A01	Middle Aged Families in Exclusive Suburbs	119	1.38	3.72	37	7.12
A02	Older Families in Select Suburban Property	34	0.40	0.88	45	8.78
A03	Expensive City Centre Flats/Apartments	58	0.68	1.83	37	7.11
B04	Young Professionals in Bed Sitters	145	1.69	2.46	68	13.15
CO5	Younger Families in Suburban Detached	35	0.41	0.70	57	11.11
806	Older white Collar Flat Dwellers	35	0.42	0.85	48	9.38
B07	Young Single White Collars in Rented Property	86	1.00	1.21	82	15.83
A08	Middle Aged Families in Up-Market Semis	135	1.57	2.98	52	10.06
C09	Younger Families in Larger Semis	316	3.66	4.56	80	15.38
C10	Young Well-to-Do in High Turnover Semis	146	1.69	1.73	97	18.77
E11	White Collar Family Pensioners	196	2.27	3.40	66	12.79
E12	Single White Collar Pensioners	266	3.08	3.85	80	15.34
G13	Young Multi-Ethnic White & Blue Collar Families	123	1.43	1.87	76	14.67
014	Affluent Farming Communities	101	1.18	1.18	100	19.18
F15	Lower Middle Class Metropolitan Semis	156	1.81	2.36	76	14.66
F16	Military Families	351	4.06	3.87	105	20.15
017	Older and Retired Better Off Rural Workers	361	4.18	4.18	100	19.20
F18	Lower Middle Class in Provincial Semis	25	0.30	0.34	87	16.79
019	Less Affluent Rural Workers and Pensioners	540	6.26	5.10	122	23.53
E20	Middle Aged White Collar Couples	301	3.49	3.61	96	1E1.55
F21	Upper Working Class in Council Housing	239	2.77	2.21	125	24.02
P22	Upper Working Class in Semis and Terraced	323	3.74	2.67	140	26.84
H23	Unskilled Families Inner City Conversions	429	4.96	3.14	157	30.27
H24	Skilled and Semi-Skilled in Improved Terraced	156	1.81	1.91	95	18.24
G25	Unskilled Ethnic Families in Council Flats	267	3.10	2.53	122	23.49
H26	Skilled and Semi-Skilled in Poorer Terraced	609	7.05	5.45	129	24.79
127	Middle Aged and Older Couples in Council Flats	157	1.83	1.72	106	20.35
128	Blue Collar Workers in Established Council Houses	181	2.10	2.32	90	17.29
/29	Blue Collar Workers with High Unemployment	576	6.67	4.79	139	26.69
130	Low Income Older Families in Council Flats	281	3.26	2.49	130	25.10
131	Mature Blue Collar Workers in Mining Areas	214	2.48	1.45	170	32.68
G32	Large Ethnic Families in Cramped Terraced Property	120	1.40	1.43	97	18.68
J33	High Unemployed Semi/Skilled in Council Houses	508	5.89	4.18	140	26.97
J34	Very Low Income Council Houses	279	3.23	4.64	69	13.33
J35	Highly Unemployed in Crowded Council Houses	253	2.93	2.19	133	25.68
J36	Large Unemployed Families in Cramped Council Flats	229	2.66	2.31	114	22.00
K37	Unclassified	113	1.32	1.44	91	17.59
	Total	8642				

Table 6c: AVERAGE ISSUE READERSHIP
Publication: FINANCIAL TIMES   Base: All Adults

Type	Description	FINANCIAL TIMES 000's	%	BASE %	INDEX	COVER %
A	Affluent Minority	177	22.48	9.41	238	4.18
B	Metro Singles	77	9.79	4.51	217	3.80
C	Young married Suburbia	61	7.80	7.00	111	1.95
D	Country & Retiring Suburbans	93	11.80	10.45	112	1.98
E	Older Suburbia	Ill	14.08	10.86	129	2.27
F	Aspiring Blue & White Collars	85	10.80	11.44	94	1.65
G	Multi-Ethnic Areas	33	4.26	5.82	73	1.28
H	Fading Industrial	58	7.42	10.50	70	1.24
1	Council Tenants	49	6.29	17.41	36	0.63
J	The Underprivileged	18	2.39	8.68	27	0.48
K	Unclassified	8	1.12	1.44	78	1.37
	Total	788				
A01	Middle Aged Families in Exclusive Suburbs	81	10.32	3.72	277	4.85
A02	Older Families in Select Suburban Property	9	1.16	0.88	131	2.31
A03	Expensive City Centre Flats/Apartments	32	4.11	1.83	225	3.94
B04	Young Professionals in Bed Sitters	34	4.39	2.46	178	3.13
CO5	Younger Families in Suburban Detached	15	1.92	0.70	272	4.76
B06	Older White Collar Flat Dwellers	11	1.49	0.85	175	3.07
B07	Young Single White Collars in Rented Property	31	4.04	1.21	333	5.84
A08	Middle Aged Families in Up-Market Semis	55	7.08	2.98	237	4.15
C09	Younger Families in Larger Semis	31	4.03	4.56	88	1.55
C)0	Young Well-to-Do in High Turnover Semis	15	1.98	1.73	114	2.00
E11	White Collar Family Pensioners	57	7.34	3.40	215	3.78
E12	Single White Collar Pensioners	23	2.94	3.85	76	1.33
G13	Young Multi-Ethnic White & Blue Collar Families	15	1.91	1.87	102	1.79
014	Affluent Farming Communities	7	0.96	1.18	81	1.43
F15	Lower Middle Class Metropolitan Semis	17	2.24	2.36	94	1.66
F16	Military Families	20	2.56	3.87	66	1.16
017	Older and Retired Better Off Rural Workers	49	6.33	4.18	151	2.65
F18	Lower Middle Class in Provincial Semis	2	0.30	0.34	88	1.55
019	Less Affluent Rural Workers and Pensioners	36	4.64	5.10	91	1.59
E20	Middle Aged White Collar Couples	31	3.93	3.61	108	1.91
F21	Upper Working Class in Council Housing	9	1.61	2.21	52	0.92
F22	Upper Working Class in Semis and Terraced	37	4.79	2.67	179	3.14
H23	Unskilled Families Inner City Conversions	15	1.91	3.14	60	1.07
824	Skilled and Semi-Skilled in Improved Terraced	3	0.43	1.91	22	0.39
G25	Unskilled Ethnic Families in Council Flats	15	1.94	2.53	76	1.35
H26	Skilled and Semi-Skilled in Poorer Terraced	41	5.20	5.45	95	1.67
127	Middle Aged and Older Couples in Council Flats	2	0.34	1.72	19	0.35
128	Blue Collar Workers in Established Council Houses	7	0.95	2.32	40	0.71
/29	Blue Collar Workers with High Unemployment	15	1.96	4.79	40	0.72
130	Low Income Older Families in Council Flats	6	0.79	2.49	31	0.55
131	Mature Blue Collar Workers in Mining Areas	9	1.15	1.45	79	1.38
G32	Large Ethnic Families in Cramped Terraced Property	4	0.53	1.43	36	0.64
J33	High Unemployed Semi/Skilled in Council Houses	10	1.38	4.18	33	0.58
J34	Very Low Income Council Houses	1)	1.42	4.64	30	0.53
J35	Highly Unemployed in Crowded Council Houses	0	0.06	2.19	2	0.05
J36	Large Unemployed Families in Cramped Council Flats	8	1.07	2.31	46	0.81
K37	Unclassified	8	1.12	1.44	78	1.37
	Total	788				

Similarly, using the Target Group Index data for 1988 based on housewives, Tables 7 and 8 provide a summary analysis of grocery shoppers against SUPER PROFILE ten lifestyle categories. Again, an index of 100 represents the national average. While the results are self-explanatory, for Table 8, it is noted that specific retailer patronage is obviously dependent on consumers' proximity to particular branches.

Table 7:   Last Week's Expenditure Patterns at the Major Shops

	Up to 20	21-40	41-60	Greater than 60
Affluent Minority	81	101	114	162
Metro Singles	145	79	73	132
Young Married Suburbia	79	101	128	109
Country and Retiring Suburbans	104	97	108	84
Older Suburbia	109	102	93	65
Aspiring Blue and White Collars	87	102	114	117
Multi-Ethnic Areas	126	94	81	86
Fading Industrial	118	97	83	70
Council Tenants	105	101	90	95
Underprivileged	92	108	95	78

Source: 1988 UK TGI and CDMS

Table 8:   Regular Patronage of the Major Shops

	Asda	Gateway	Safeway	Sainsbury	Tesco
Affluent Minority	85	77	254	146	90
Metro Singles	33	77	251	174	88
Young Married Suburbia	129	100	103	109	92
Country and Retiring Suburbans	59	136	88	71	109
Older Suburbia	93	100	114	101	100
Aspiring Blue and White Collars	121	109	63	113	102
Multi-Ethnic Areas	76	61	112	144	139
Fading Industrial	114	104	69	70	109
Council Tenants	104	91	51	80	101
Underprivileged	123	123	44	57	90

Source: 1988 UK TGI and CDMS

3.4 "Bespoke" Discriminators

A more recent development has been the derivation of market-specific geodemographic discriminators as distinct from the above general-purpose geodemographic discriminators. Pinpoint's FiNPiN (Financial Pinpoint Identified Neighbourhood) types, for instance, were derived through the linkage of NOP's market research Financial Research Services survey data on households' holdings and usage of a range of financial services and Census of Population data. More specifically, using over 30,000 households surveyed during the period October 1985 to March 1986, the increasing diversity of the personal finance market was captured through a range of variables (see Table 9).

Given these observed holdings and usage of a range of financial services, 58 significant Census variables were extracted that described these patterns. Once selected, using the conventional methodologies of principal components analysis and clustering, these Census variables were input to classify all the Enumeration Districts in Great Britain. A three-level hierarchy was derived comprising four neighbourhood types, ten neighbourhood types and forty neighbourhood types (See Table 10).

In comparison to the general-purpose discriminators, it is interesting to note FiNPiN's explicit market orientation. For example, some of the descriptions of the four-level neighbourhood types are:

- "financially active"
  Households with a high propensity to utilise all forms of financial services, both credit and savings facilities. These households probably have more than one variety of each product generic, such as building society high interest deposit account and a bank deposit account, two current accounts and so on.

- "fmancially informed"
  Households with a high propensity to utilise all forms of financial service. These households probably select the source of their financial services with care and are company loyal.

- "financially conscious"
  Households who use the basic financial services in order to meet the basic financial needs of security and loan funds.

- "fmancially passive"
  Households who use few, basic financial services. They, for example, have a current account purely for the clearing of their wage cheques and a deposit account for redundancy payment services and so on.

With greater availability of customer data and trends of more specialisation, there will be an increased incidence of market-specific (and probably company-specific and area-specific) geodemographic discriminators developed in the future. Such bespoke

Table 9: Variables from the FRS Survey used in the FiNPiN Derivation

Bank Current Accounts
- single ownership
- multiple ownership
- frequency of movement
- ATM usage

Bank Deposit Accounts
- ownership
- high interest deposit accounts
- account opening and closing

Stocks and Shares
- existing holdings
  . BT
  . other shares
  . unit trusts
  . investment trusts
- new holdings
  . BT
  . other shares
  . unit trusts
  . investment trusts

National Savings Products
- saving certificate ownership
  . index linked
  . non-index linked

National Giro Bank Ownership
- ordinary account
- investment account

Building Societies
- ordinary shares ownership
- cash card ownership
- high interest account
- new investor
- first time investors
- account activity rate

Mortgage
- ownership
- first mortgage: bank
- first mortgage: building society

Credit Cards
- ownership
- usage
- extended credit/payoff
- recent acquisition
- Mail Order

- bank
- finance house
- HP usage
- interest free/interest paid

Retail Store Account
- budget
- option
- other

Life Insurance
- endowment: protection/other
- obtained: broker/direct/other

Car Insurance
- ownership
- obtained: broker/direct/other

Household Contents Insurance
- ownership
- obtained: broker/direct/other

Medical Insurance
- ownership

Personal Pensions
- company/non-company

Source: Pinpoint Analysis Limited

Table 10:   FiNPiN

4 Level FiNPiN Types	10 Level FiNPiN Types	40 Level FiNPiN Types
A. Financially Active (20.1)	i) Most Active (11.6)	1. "Wealthy" families with older children (2.0) 2. "Wealthy" families (2.2) 3. Families with young children and two working adults (1.9) 4. "Wealthy" families with students and older children (2.7) 5. Families with *growing* children and two working adults (2.81
	ii) Finanically secure savers (8.5)	6. "Wealthy" empty-nesters (2.6) 7. "Wealthy" retired (5.9)
I. Financially Informed (25.9)	iii) Multiproduct savers and investors (10.71	8. Established families with older children (4,3) 9. "Wealthy" urban areas with few children (1.81 10. Agricultural families (0.2) 11. "Wealthy" rural empty-nesters (2.2) 12. Rural or suburban elderly (2.2)
	iv) Traditional multiproduct users (7.1)	13. Suburban families (1.6) 14. Established families with two working adults (3.7) 15. Army families (0.3) 16. "Wealthy" farmers and agricultural workers (1.4)
	v) Nett savers (8.1)	17. "Wealthy" self-employed with older children (0.2) 18. Young professional singles and families (1.91 19. Elderly empty-nesters (2.4) 20. "Wealthy" in flats (3.6)
C. Financially Conscious (27.1)	vi) Average users (12.0)	21. Young professional adults, students and ethnic populations in rented accommodation (2.7) 22. Families with young children in owner occupied housing (5.2) 23. Elderly rural empty-nesters (2.3) 24. Young families in council flats in deprived areas (1.9)
	vii) Uncommitted investors (3.2)	25. Smallholding and farming families (0.4) 26. Young adults and ethnic populations in crowded rented property (1.0) 27. Large families in council houses, mothers working part-time (1.91
	viii) Basic product users (11.8)	28. Small families in council accommodation with women in part-time work (5.81 29. Deprived areas with few children (4.6) 30. Elderly in small council dwellings (1.4)
P. Financially Passive (26.9)	ix) Inactive borrowers (15.2)	31. Young adults and ethnic populations in bedsits (3.1) 32. Established families in council accommodation (4.6) 33. Young families and ethnic populations in smaller inner city dwellings (1.2) 34. Empty-nesters in council accommodation (3.6) 35. Large young families in council accommodation (2.7)
	x) Least active (11.8)	36. Large families in crowded council accommodation, mainly in Scotland (1.7) 37. Elderly in small council accommodation in ethnic neighbourhoods (2.7) 38. Elderly in crowded council neighbourhoods (4.7) 39. Families with older children in deprived council neighbourhoods (2.0) 40. Crowded council neighbourhoods with ethnic populations (0.6)

Figures in brackets are the percentage of GB households

Source: Pinpoint Analysis Limited

solutions should be more powerful geodemographic discriminators than general-purpose ones, because their derivation is chosen by important socio-economic and demographic household characteristics of the specific market/problem of interest. The opportunities to develop "bespoke" discriminators will increase as more data become available through store and credit cards, Electronic Funds Transfer at the Point of Sales (EFTPOS) systems, ...

> "In five years' time, one imagines that this approach (to develop bespoke systems) will be both more widely accepted and far more important than it is today" (Openshaw, 1989, page 118).

3.5 Recent Developments

As a product, ACORN is still the leading market classification system, stemming partly from the fact it is the most widely used segmentation tool both in companies' marketing information systems and for market research purposes, and partly from the fact that CACI as a company have also not stood still. CACI have developed a range of new value-added services founded on ACORN.

> "... the greatest weakness of all neighbourhood based systems is the ability to target at life stage or age" (Humby, 1989, page 63).

To help overcome this shortcoming, using the simple idea that christian names are related strongly to age, CACI developed their MONICA system. This concept has been taken further in their Household Classification by analysing the composition and age profiles of individual households.

MONICA is based on the idea that names go through phases when they are popular, and, normally, after one generation they drop out of fashion (although it must be recognised that important practical constraints exist, such as the analysis of christian names of ethnic minorities). By analysing all of the names on the Electoral Roll (over 40 million), CACI identified 13,000 different christian names which could be classified by sex. The relationship between name and age was examined in a cluster analysis, which also took into account regional biases in the distribution of names. All 13,000 names were classified by age profile on the basis of their probability of being in particular age bands. At a basic level, names can now be grouped into one of four age bands which meet the most common marketing targets:

- Pre-family   15-24   : such as, Sharon, Lynn, Kevin, Gary;
- Young family   25-44   : such as, Pamela, Heather, Brian, Keith:
- Mature family   45-64   : such as, Joyce, Eileen, Raymond, Dennis;
- Retired   65+   : such as, Ethel, Florence, Percy, Ernest.

Sharon, Lynn, Kevin and Gary have the greatest probability of being in age band 15-24. In practice, some names, such as Mildred and Herbert, have a greater age bias than others,

such as Robert and Ann. For more sophisticated use, names have been grouped into 17 female and 18 male age profiles.

CACI' s Household Classification system takes MONICA one step further and predicts the likely composition and life stage of any household based on the combination of the peoples' names in the household. For instance, in a household containing Brenda, Raymond and Sharon, Brenda and Raymond are most likely to be married, aged between 45 and 64; Sharon is likely to be their teenage/young adult daughter.

> "This approach has many benefits for the retailer or direct marketeer - it eliminates the fundamental weakness of all neighbourhood classifications, their inability to reach key age segments and composition. For example, in (ACORN) D12, unmodernised terraces, older people, there is tremendous activity and expenditure on DIY, yet analysis of research shows that this is highly concentrated in the younger 17-25 year olds and to a lesser degree the 25-44 year olds. So Ethel and Albert, likely to be retired, will have their dramatic consumption differences from Kevin and Tracy, their new neighbour, not just on DIY. We know that Ethel and Albert are likely to go on holidays at a Holiday Camp or by coach, whilst Kevin and Tracy are much more likely to holiday 'at home' - probably doing their DIY" (Humby, 1989, pages 70-71).

The Household Classification is a novel, but practical attempt to extend the usefulness of geodemographic discriminators by allowing a deeper investigation of the type of individual households and age groups that purchase different products or services.

ACORN classifies neighbourhoods, and the recently launched ACORN LIFESTYLES, which combines the three separate systems - ACORN, MONICA and the Household Classification, classifies individual households. ACORN LIFESTYLES classifies each individual household in the United Kingdom into three levels: six broad ACORN neighbourhoods; twenty-four lifestyle groups; and eighty-one lifestyle types. The targetting discrimination can be enhanced greatly by ACORN Lifestyles. For example, CACI have shown that their lifestyle type "Adult Families in Council Areas" are atypical residents of council areas, because they generally have more wage packets coming into their household than other council neighbours; from a marketing perspective, with their high disposable income, these households have a greater propensity than their neighbours to go on package holidays and to buy products, such as videos, microwaves and satellite dishes.

As well as more detailed descriptions, recent developments have also focussed on change. For example, given CCN's access to an annually updated Electoral Roll, in the derivation of MOSAIC, it was possible to consider population movement at the postcode level. Moreover analysis of multiple surnames and (male and female) christian names at a particular address enabled an indication, at a postcode level, of single persons, married couples, pseudo families (different surnames and different sex) and mixed household formations.

For completeness, reference should also be made to the recent developments that link more directly to the established lifestyle and psychographic frameworks used by marketeers (see,

for example, Plummer (1974) and Whitehead (1987)). Databases founded on actual purchase behaviour are being developed, such as ICD's Investors Database which has over 5 million names and addresses, NDL's Lifestyle Selector which has over 1 million names and addresses, and Brocida's Behaviour Bank with nearly 1 million names and addresses.

Given the likely trend from identified market segments ("niche" marketing) to individual consumer's lifestyles ("maxi" marketing) (see Rapp and Collins (1987)), reference should be given to possible concerns about civil liberties. Legislation for the IT age is needed to cover many areas, and, in terms of personal data about individuals which are held on computers, some progress has been made since the introduction of the 1984 Data Protection Act. It must be stressed that, to be effective in their service provision, many companies must hold personal data While it would be naive to disregard the opportunities for inappropriate use, in practice the basic motives of both public and private organisations holding such data can be comprehended. For instance, in terms of consumer credit, there is a growing awareness of the social responsibilities to ensure that more credit is not granted too easily so that consumers become over stretched.

The Data Protection Act is designed for the benefit of consumers. Since 11 November 1987, when the Act came into force, individuals have had the legal right both to access their personal data and to challenge the facts if they believe the data are incorrect. A CCN survey of its own clients in different sectors showed negligible consumer interest in the first three months of the Act being in force (see Table 11). The Data Protection Registrar is conducting a programme to enhance consumer awareness of the Act.

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Table 11: Data Enquiries to CCN Clients
          (Survey period: 11 November 1987 - 13 February 1988)


                                   Average Number of
                 Business Activity Enquiries per week

      Major clearing bank              22
      Finance house                     -
      Retail credit card company       12
      Mail order company                2
      Building society                  4
      Bank credit card                  9
      Credit referencing agency (CCN)   5
      Supermarket chain                 -

Source: CCN Vision, April/June 1988
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In addition to the consumers' perspective, there are also implications for companies holding personal data on computers. At one level, all companies have to do is register their uses of personal data. However, to satisfy the Act, the companies' administration of the data to permit consumer access does have a real cost; this additional cost is probably not completely offset by the small access fee (and, ultimately, the costs will be passed back to the consumers!).

One direct impact of the Data Protection Act on geodemographic discriminators has been changes made to the names of some categories. Under the Act, any company which stores personal data referenced by a particular discriminator could have to explain the classification's meaning. Thus, the names of five ACORN groups and twelve ACORN types have been changed to remove the possibility of misunderstanding, primarily those categories which implied that the neighbourhood descriptions are characteristics of all households in the area. Table 12 is an ACORN profile report summarising the estimated 1987 household distribution across the new ACORN groups and types for Great Britain.

| | | GREAT BRITAIN 1987 | |
		Households	Percentage
	ACORN Groups		
A	Agricultural Areas	685572	3.4
B	Modern Family Housing, Higher Incomes	3185423	15.8
C	Older Housing of Intermediate Status	3763232	18.6
0	Older Terraced Housing	904707	4.5
E	Council Estates - Category I	2512136	12.4
F	Council Estates - Category II	1972909	9.8
G	Council Estates - Category III	1342431	6.6
H	Mixed Inner Metropolitan Areas	701877	3.5
I	High Status Non-family Areas	976611	4.8
J	Affluent Suburban Housing	3209300	15.9
K	Better-off Retirement Areas	932977	4.6
U	Unclassified	505	0.0
	ACORN Types		
A1	Agricultural Villages	531297	2.6
A2	Areas of Farms and Smallholdings	154275	0.8
B3	Post-war Functional Private Housing	786254	3.9
84	Modern Private Housing, Young Families	650545	3.2
B5	Established Private Family Housing	1137333	5.6
B6	New Detached Houses, Young Families	502177	2.5
B7	Military Bases	109114	0.5
C8	Mixed Owner-occupied and Council Estates	786382	3.9
C9	Small Town Centres and Flats above Shops	873043	4.3
C10	Villages with Non-farm Employment	973107	4.8
C11	Older Private Housing, Skilled Workers	1130700	5.6
012	Unmodernised Terraces, Older People	544545	2.7
D13	Older Terraces, Lower Income Families	272190	1.3
014	Tenement Flats Lacking Amenities	87972	0.4
E15	Council Estates, Well-off Older Workers	703174	3.5
516	Recent Council Estates	487087	2.4
E17	Better Council Estates, Younger Workers	929544	4.6
E18	Small Council Houses, often Scottish	392331	1.9
F19	Low Rise Estates in Industrial Towns	916596	4.5
F20	Inter-war Council Estates, Older People	662436	3.3
F21	Council Housing, Elderly People	393877	2.0
G22	New Council Estates in Inner Cities	439709	2.2
G23	Overspill Estates, Higher Unemployment	531462	2.6
G24	Council Estates with Some Overcrowding	270760	1.3
G25	Council Estates with Greatest Hardship	100500	0.5
H26	Multi-occupied Older Housing	53971	0.3
H27	Cosmopolitan Owner-occupied Terraces	183799	0.9
H28	Multi-Let Housing in Cosmopolitan Areas	133698	0.7
H29	Better-off Cosmopolitan Areas	330409	1.6
130	High Status Non-Family Areas	460483	2.3
131	Multi-Let Big Old Houses and Flats	370375	1.8
132	Furnished Flats, Mostly Single People	145753	0.7
J33	Inter-war Semis, White Collar workers	1202446	6.0
J34	Spacious Inter-war Semis, Big Gardens	995378	4.9
J35	Villages with Wealthy Older Commuters	582560	2.9
J36	Detached Houses, Exclusive Suburbs	428916	2.1
K37	Private houses, Well-off Older Residents	533588	2.6
K38	Private Flats, Older Single People	399389	2.0
U39	Unclassified	505	0.0
	Total	20187680	100.0

Source: CACI Market Analysis

4. Applications

For the purists and academics working in their "ivory tower", it is stressed that many of the different analyses completed under "market analysis" do not have firm theoretical underpinnings and many research issues exist which should be addressed. However, marketeers do have real problems with regard to understanding the markets and the customers (and potential customers) for their products and services; market analysis is proving relevant and useful to them.

As marketing has evolved from the "mass marketing" of the 1950's and 1960's to the "niche marketing" of the 1970's and 1980's, spatially disaggregated market analyses have become essential for companies to be able to plan both tactically and strategically with regard to consumers' needs and competitive threats. The move towards customer segmentation is demonstrated clearly by the changing business structure and orientation by Burton, the British retailer, whose group comprises separate branch networks of Evans, Dorothy Perkins, Principles, Top Man and Top Shop. A desire for more and more information across more and more dimensions is being taken further by the trends towards "maxi-marketing" and by the establishment of consumer lifestyle databases (see app and Collins (1987), or more details)

In practice, there are a range of generic application types that are applied across the different vertical markets. While a necessarily selective discussion, in this section a description of the following application types is presented:

- (marketing) management information systems;

- branch location analysis;

- credit scoring;

- direct marketing.

Attention focuses on management aspects, rather than technical issues per se. Brief summaries of actual applications are included (although, where appropriate, commercial confidentialities are maintained). For a more extensive discussion of a range of applications, see Beaumont (1989) and Rothman (1989).

4.1 (**Marketing) Management Information Systems**

Handling geographic information, such as customers' addresses, branch locations and sales territories, involves the linkage of different databases. Briefly, for a (marketing) management information system, geodemographic discriminators offer a consistent and meaningful base to cross-reference data as they are collected and stored over time. There is a real danger of data "overload", but, at the same time, a lack of useful and relevant information for management. With geodemographic discriminators, marketing information can be extracted for both a particular company and the overall market. A most relevant place

to start is with the internal company database; many companies have developed their own address-based management information systems for billing and maintenance purposes, and postcoded customer files can be used directly to describe the current customer base. Profiles of existing customers can also be used to highlight the potential for cross-selling services. Banks, for example, which formerly stored their data by separate account for transaction processing, are beginning to explore their databases by customer, building up multi-account profiles.

Given a knowledge of the existing customers, it is important to have an overall view of the market because some repositioning of products may be required. As many of the geodemographic discriminators are available on the updated market research surveys describing various markets, important comparative analyses can be completed directly. Are we maintaining market share? Such analyses can now be completed at a local level, which offer more actionable information than conventional regional and national statistics.

The electrical retailer Comet, for example, uses model-based market analyses to review the performance of existing branches and to assess the sales potential of possible new sites. Early work involved examination of paper-based customer invoices and the use of a geodemographic discriminator to target mailing campaigns. The real progress came after the introduction of five year guarantees, which were stored on the computer. A customer database of over 150,000 names and addresses was established and this system provided the foundation to describe the profile of Comet's existing consumers. In a similar way, many retailers with their own store cards analyse their customers' purchasing patterns for future marketing initiatives.

Geodemographics are also proving important in market research surveys (see Dixon and Leach (1977a, 1977b) for a discussion of sampling methods and questionnaires and interviews). Prior to the availability of the neighbourhood classification schemes, sampling was driven more generally by the use of electoral results than census statistics.

> "Geodemographic systems have now become common place in survey design. Although they are not the universal panacea of all sampling problems, suffering from inevitable problems of localised 'out-of-dateness' and occasional misclassification, experience has shown that the advantages considerably outweigh the disadvantages" (Baker, 1989, page 39).

> "They have provided (multi-purpose) means for improving the design of surveys ranging from the sophisticated probability samples to less expensive sampling systems" (Baker, 1989, page 44)

Geodemographic discriminators are particularly useful for stratified sample designs, because the classifications are based on a large number of census variables; if single census variables, such as age, sex, social class and region, are used to stratify a sample, the design becomes impractical. Moreover, the Census with Enumeration Districts can be used as the sampling frame for the geodemographic discriminator. In addition to the benefits in sample

design, geodemographic discriminators are also linked to the Electoral Roll, and, therefore, they can provide names of potential respondents.

4.2 Branch Location Analysis

The four 'Ps' of marketing (place, price, product and promotion) are often replaced in retailing by the three 'Ls', location, location and location! Many public and private sector services are provided to customers through a network of branches over the country. **Briefly,** branch location analysis is viewed as matching demand and supply interrelationships over space; there is a varied demand for different services from different household types that can be satisfied by competing branches of various sizes (see, for example, Wrigley (1988) and Johnson (1989)).

Many concepts of Central Place Theory (see Beavon (1977) and Berry and Parr (1988) for more details) are operationalised in spatial analysis (Beaumont (1987)). Hillier Parker, for example, have an established hierarchy for retail property development, and CACI have launched recently a comprehensive retail database called Shopping Centre Planner. Shopping Centre Planner defines nearly 2,500 shopping centres around Great Britain. London, the national shopping centre, is treated as a special case. Tables 13a and 13b list the names of the shopping centre levels and give associated examples for London and outside of London, respectively.

For a major high street multiple retailer, the Shopping Centre Planner offers an actionable guide to identify opportunities and priorities for branch network development. For each shopping centre, 'primary', 'secondary' and 'tertiary' catchment areas are defined as areas from which 50 per cent, 75 per cent and 95 per cent of all shoppers come, respectively.

Branch location analysis should not be interpreted narrowly as selecting sites for new branches/closing existing branches; the range of products and services offered, advertising and distribution have direct locational ramifications for both existing and new branches. Any analysis should be an integral component of the formulation, implementation and evaluation of a strategic marketing plan in relation to:

- assessing alternative branch locations;

- identifying target customer groups;

- establishing realistic market and sales targets;

- monitoring performance and tracking the impacts of advertising and promotion.

Moreover, it is important to appreciate that branch location analysis is not confined to site and product assessment and performance. Integral to the analyses is a consideration of merchandising and space management within a branch. For example, shelf space allocation for particular products in specific branches is becoming automated through the use of software, such as Apollo, accu SPACE and Spaceman, which generate "planograms" of

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Table 13a: London Shopping Centres

      "Central London"          :    Covent Garden, Kensington

      "Large Outer London       :    Luton, Croydon

      "Large Inner London"      :    Lewisham, Ilford

      "Medium Outer London"     :    Dorking, Ware

      "Medium Inner London"     :    Chiswick, Golders Green

      "Small Outer London"      :    Purley, Hendon

      "Small Inner London"      :    Acton, Blackheath

      "Poorer Small London"     :    Brixton, Poplar


Table 13b: Non-London Shopping Centres

      "Metropolitan"            :    Edinburgh, Glasgow,
                                     Manchester, Cardiff,
                                     Birmingham

      "Major Regional"          :    Bath, Chelmsford, Swansea

      "Better-off Large"        :    Banbury, Poole

      "Average Large"           :    Ayr, Chatham

      "Better-off Medium"       :    Braintree, Sudbury

      "Average Medium"          :    Dunfermline, Selby

      "Better-off Small"        :    Didcot, Troon, Warwick

      "Average Small"           :    Cupar, Portsmouth

      "Large Retirement"        :    Bournemouth, Torquay

      "Small Retirement"        :    Largs, Worthing

      "Conurbation Suburban"    :    Gosforth, Stone

      "Free-Standing Malls"     :    Gateshead, Brent Cross

Source: CACI Market Analysis
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optimum shelves. W H Smith, for instance, use such methods for their space allocation to newspapers.

For branch location analysis, a number of separate, albeit integrated, stages can be recognised:

- define the branch's catchment area;

- describe the profile of the households in the catchment area;

- estimate the local market demand of the catchment area for the particular products and services of interest;

- estimate branch sales (or local market share) for the specific products and services given the competitive position.

There is no single best approach; the choice of methods is often constrained by data availability and quality. It is appropriate to outline briefly some of the alternative methods that are applied in practice.

A basic requirement for branch planning is accurate data on catchment areas and on the characteristics of the types of customers patronising different branches. With a knowledge of a sample of customers' postcodes from, say, the customer origin surveys undertaken by many retailers, through a national grid reference link, proximity analyses can be completed to indicate the average distance customers travel to patronise a branch. Such proximity analyses are necessary to examine the extent to which convenience/accessibility to a branch determines patronage. For example, in addition to looking at the distances customers travel to a branch, with location data on competitors' branches, it is straightforward to examine whether customers go to their nearest source of service or whether there is some customer loyalty. For many applications, straight-line or road network distances are inappropriate, and it is necessary to use travel time distances. While most analyses are founded on spatial interactions between a household's residential location and the branch network, for many services, work-based, rather than home-based, trips are significant and must be considered explicitly. CACI' s WORKFORCE database, for example, shows that, in the Holborn district of London, the 10,000 permanent residents are swollen to 100,000 by the daily influx of office workers.

Linked to the catchment area definition, it is important to have a description of the existing customer base, usually disaggregated by service type. Geodemographic discriminators provide a most apposite means of customer profiling, and, through linkage with market research data, the information can be used to estimate a branch's market potential (whether the strategic objective is either to attract new customers who are "similar" to the existing ones or to reposition in some way).

Importantly, a description and understanding of catchment area and customer profile geodemographics for existing branches not only provides a consistent and operational basis for evaluating existing performance, especially product and service mix, but also offers a

foundation from which to rank potential new locations. Key indicators can be derived to monitor progress, and "under performers" with regard to both their relative and absolute potential by product and service can be highlighted directly.

With the availability of such local market data, spatial analytic models are being employed increasingly in branch reviews as a flexible tool for management's decision-making based on their estimates of branch sales (for a discussion of the gravity-based, spatial interaction model, see Openshaw (1975)). Decision Support Systems, which are founded on such calibrated models, are now becoming important (see Beaumont (1988) for more details). For example, URPI' s MARKETS model allows a user to assess a possible retail location by modelling the pattern of consumers' shopping behaviour and expenditure flows. A range of applications can be completed, including "what if' simulations to determine the impacts of alternative decisions, such as:

- what sales by-products and services would we expect?

- what would be the competitive effects (including "cannibalisation" of our existing branches)?

- what is the optimum sequencing of new branch development?

- could our most profitable branch be our most vulnerable?

Tesco's company chairman, Ian MacLaurin, has emphasised the importance of branch location analysis:

"There are only a finite number of superstore sites available in the UK. ... It is my job to make sure that we get our share of the remaining sites."

Tesco have a large research team providing professional guidance in branch location analysis (see Penny and Broom (1988) for more details). A three-tier branch location analysis system exists:

- a guidance system for Tesco's business development strategy and for proactively orientating the search procedure for new sites in terms of sales or market potential;

- a filter system to screen possible sites for further detailed assessment;

- a forecasting system to estimate product sales for a specific site.

"... the research approach to store location at Tesco needs to be flexible, but more importantly, accurate, robust and of sufficiently high quality to aid a highly volatile process of decision-making. Few researchers face such situations where they are accountable for multi-million pound investment decisions" (Penny and Broom, 1988, page 119).

Interestingly, both Sainsbury and Tesco had developed branch location models before the commercial consultancies developed their services in this area.

In summary, there is no longer the need for branch and/or product and service performance analysis and site evaluation to lack the rigour of analysis given to most investment decisions of many millions of pounds! Indeed, with rapid advances in data capture technologies, such as Electronic Point of Sales (EPOS) systems, a cogent argument can be made for the development of direct, real time linkages of branch sales data to local market data for market share assessment.

4.3 Credit Scoring

In recent years, the scale of households' dependency on credit has grown enormously, and there are now over twenty million credit and charge cards in the country. In Britain, 6 billion is owed on bank credit cards (primarily Access and Visa). Concern over consumer credit has resulted both in an Office of Fair Trading review and in suggestions to establish and maintain an address-based register of consumer credit; it is noted that, recently, the Data Protection Registrar has questioned the practice of using an address as a cheap and easy predictor of credit-worthiness. Over the last few years in Britain, to the benefit of both consumers and credit grantors, the employment of application credit scoring techniques has become very important to reduce the risk of bad debt problems. The use of such methods commenced in the 1960's in the United States, and, while they began to be introduced into Britain in the 1970's, widespread application really only commenced in the 1980's. While such practices could obviously be improved and the nature of statistical analysis means that one is attempting to reduce uncertainty (rather than to provide certainty), previous approaches to such credit assessment were often even less discriminating. If professional assessment is not permitted using all the data that are available, it must be remembered that 'loan sharks' are always willing to "assist"!

Application credit-scoring is a significant tool for management profitably to control their credit granting businesses, and is particularly useful for the efficient processing of individual applications based on their home address. The assumption underlying the statistical analyses of credit scoring is that recent historical series of actual repayment experiences provide the firm foundation to predict future repayment histories. Simply stated, given a household's circumstances at the time of application, what is the likelihood that the account would have a good/bad repayment history in the future?

Four different types of data are usually integrated in some way to develop a credit scoring system :

- conventional credit referencing variables, such as County Court Judgements and Satisfactions (which are address-based data available from the Lord Chancellor's office);

- individual households' personal and financial details obtained directly from their application form for credit;

- payment histories of individual households, which are established by the pooling together of different (finance house, retailer, credit card) company data about their clients;
- socio-economic and demographic household data from the Census, spatially referenced by postcodes.

The nature of the application is an important determinant of the type of data used. For instance, the rules governing "clubs" of credit granting companies mean that any member has access to the pooled data; however, the data can only be used for responsive analysis of credit applications (rather than proactive marketing through say direct mail). When such data are available to assess applications, census-based data are usually only of marginal significance in the evaluation of whether credit should be granted or not. A credit score is only the aggregation of attribute weights of different characteristics (such as age) and their specific attributes (such as 21-25 years old). The summary score is couched usually in terms of the probability of being a 'good' applicant. Their importance varies across companies, because of different tactical and strategic marketing objectives. Continual monitoring is essential as recent repayment experiences can be incorporated as refinements to a company's scoring system. The formulae used in an application credit scoring model to estimate an applicant's creditworthiness are not released both for obvious commercial confidentiality reasons and for reducing the risk of applicants falsifying information.

As marketeers' requirements have developed, attention is focussed not only on the binary acceptance or rejection of an application, but also on estimated usage patterns; to satisfy this latter requirement, more traditional Census-based analyses to quantify market size and sales expectations are important. The "profitability" analyses are now more complicated than the assessment of an applicant's worthiness for fixed-term credit. The issue of revolving credit is important to consider, and it focuses not only on usage but also the propensity to repay monthly debts or incur monthly interest charges. Credit profitability revolves around determining the precise balance between a customer's credit worthiness/risk and potential usage. When attempting to expand the customer base through direct mail, the predictive power of Census-based analyses does become very important; it is important not to market a credit service to households that will not satisfy the credit scoring criteria!

No system is perfect! It must be stressed that, while mathematical and statistical analyses are deemed significant, the credit industry is usually willing to listen and to reconsider if the original application is declined (even though there is no legal right to be advised why credit was refused). However, under the Consumer Credit Act, lenders are required to disclose whether a credit referencing agency has been involved, and if so, to pass its name and address to the credit applicant. By paying £1 to the agency, any individual can obtain a copy of their file.

4.4 Direct Marketing

Direct marketing has lost its "Cinderella-image" of the early 1980's to be recognised as an important tool in the marketeers' armoury in its own right. As the name suggests, direct marketing involves selling goods or services to consumers without the conventional involvement of a retailer or a wholesaler. Direct marketing can be subdivided into four ways:

- direct mail;
- telephone selling;
- direct response advertising ("off-the page");
- direct personal selling.

These approaches can be employed separately or in combination. For example, direct mail or the telephone can be used to generate leads for salesmen to follow up. As direct personal selling is primarily a selling method, rather than a marketing medium, in this sub-section we confine our attention to the other three direct marketing approaches.

Direct mail is the most important medium. Direct mail is estimated to be just under ten per cent of total advertising expenditure, and over sixty per cent of this expenditure can be attributed to four main sectors:

- mail order companies;
- manufacturing companies;
- financial services;
- retailers.

The rapid growth in direct mail can be associated with effective handling of (customer) databases and the developments in geodemographic analyses to assist marketing management. While it may be expected that consumer resistance to direct mail solicitation is greater in Britain than in North America, households in Britain receive a significantly lower number of direct mail items than households in other European countries. As Table 14b indicates, postage costs are approximately one third of total costs; the remainder of the costs can be attributed to design and production of the literature/leaflets and the specification and determination of the target market.

The influence of market analysis on mailings is exemplified by The Post Office's awarding of a contract to CACI to develop an advanced sorting system for its new MAILSORT - a rebate scheme for large direct mail users. MAILSORT, which has been installed to enhance the quality of the Post-Office's delivery mechanism, has three levels:

- MAILSORT 1:for delivery the next working day;
- MAILSORT 2:for delivery within three working days;

Table 14:   Direct Mail Growth

a :   Volumes (million items)

	1980	1981	1982	1983	1984	1985	1986
Mail order origins	251	294	333	264	276	330	348
Other origins	734	740	769	820	986	973	1053
Total	985	1034	1102	1084	1262	1303	1401

Table 14:   Direct Mail Growth

b :   Expenditure (million)

	1980	1981	1982	1983	1984	1985	1986
Postage Expenditure	88	100	120	112	121	144	149
Total Direct mail Expenditure	260	299	341	299	324	445	474
Total advertising Expenditure (all media except direct mail)	2562	2818	3126	3579	4059	4441	5117

Source: Post Office and Advertising Association

- MAILSORT 3:for delivery within seven working days (plus a deferred delivery option).

A similar discount service for periodical publishers, PRESSTREAM, will be launched in the near future.

As every domestic address in the country has a geodemographic description, once the target market has been defined, it is straightforward to complete a direct mail campaign. Mailings can be personalised through linkage with the Electoral Register. Added value can also be provided by using segmentation tools to enhance existing customer lists; the British Investors Database, for instance, is available cross-referenced by SUPER PROFILE. It is important for the cost-effective success of any direct marketing campaign that the medium is directed towards those households most likely to become customers. Direct mail costs for a mailshot of a specified quantity are virtually fixed whatever the take-up rate, and, therefore, any improvement in the conversion rate is directly beneficial. Obviously, it is important to note that market analysis will never be successful if the product/service or the associated creative promotion material do not appeal.

For direct mail, success or failure is measured primarily by the response rate (whether it is in terms of expressed interest or actual client conversion). To extend the market penetration, it is necessary to be as efficient as possible in the targetting. For instance, CACI' s SPECTRA system for optimal response analysis involves two stages:

- an expanded customer profiling system, using the addresses of past respondents from either previous mailing campaigns or a test mailing, to identify discriminators that most influence response;
- a prospect scoring system, which combines these discriminators, to predict the potential responsiveness of any address to future mailings.

Industry expectations of a "successful" direct mail campaign indicate a response rate of between one to three per cent. The use of geodemographic discriminators has helped companies to achieve significant success in reaching the identified target audience. For example, for their Autumn 1984 "Lets Go" brochure for weekend breaks, The English Tourist Board mailed to the following specified ACORN categories:

- B5 - "Modern private housing, older children";
- B6 - "New detached houses, young families";
- 130 - "High status areas, few children";
- J34 - "Spacious inter-war semis, big gardens";
- J36 - "Detached houses, exclusive suburbs".

For the mailing campaign, a 13.5 per cent response was achieved. On average, each response cost £1.51, which was significantly cheaper than off-the-page advertising or inserts which ranged between £2.68 and £6.75 per response.

To illustrate the relative efficacy of the market-specific FiNPiN over the general-purpose discriminator, the anonymised results from a 100,000 mailout promoting home loans are summarised below. For the original campaign, the target market was defined in terms of specified bands of Pinpoint's Wealth Indicator, a general-purpose discriminator. In aggregate, at the time of the response analysis, the response was slightly above 1.5 per cent; by financial direct marketing standards, this campaign was viewed as a success (see Table 15 below).

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Table 15: Wealth Indicator Profile of the Response Analysis
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Wealth Band	Frequency distribution of mailout	Frequency distribution of response	Response rate
65.1-70,0	39,601	585	1.47
70.1-75.0	29,498	445	1.50
75.1-80.0	16,763	259	1.55
80.1-85.0	8,985	150	1.67

This campaign was re-profiled using FiNPiN, and it is summarised for the main types in Table 16.

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Table 16: FiNPiN Profile of the Response Analysis
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FiNPiN	Response Rate	Percentage of GB households
Four-level		
Active	4.0	20.1
Informed	2.6	25.9
Conscious	0.2	27.1
Passive	0.0	26.9
Forty-level		
1 "Wealthy" families with older children	6.3	2.0
2 "Wealthy" families	7.8	2.2
3 Families with young children and two working adults	4.8	1.9
4 "Wealthy" families with students and older children	3.1	2.7
5 Families with growing children and two working adults	9.3	2.8
6 "Wealthy" empty-nesters	1.7	2.6
7 "Wealthy" retired	0.3	5.9

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Source: Pinpoint Analysis Limited
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At the four-level, the direct relationship is clear between interest in the products and the degree of financial activity. The finer discriminatory power of FiNPiN is demonstrated at the forty-level within the "Financially Active" category. Not surprisingly, the financially secure savers are relatively less interested in the new home loans products, particularly the "wealthy retired". Indeed, there were eight FiNPiN types (accounting in total for approximately 21.8 per cent of Great Britain's households) in which the response rate was greater than twice the original average response.

In terms of direct mail, mail order catalogues have a long history (primarily for the less well-off households that wanted to buy on credit). However, at the beginning of 1986 with the launch of Bymail, the smaller "specialogue" has arrived aimed at well-defined target markets. These initiatives to expand the traditional customer base have been undertaken by all the mail order firms, and their "home shopping" could be another competitor to the high street. The success of these specialogues will be partly dependent on the application of market analytic techniques, particularly as Management Information Systems can be developed to capture customer purchasing patterns and facilitate cross-selling. When Next bought Grattan, for example, an enormous customer database was recognised to be an important asset.

In addition to getting to the customer by mail, with the high residential incidence of telephones, "telemarketing" is growing in importance. Many customer databases not only include names and addresses, but also contain telephone numbers. While potential customers are being approached at home by telephone on behalf of fitted kitchen and double glazing companies, at present the majority of telephone marketing is estimated to be business-to-business.

It is noted that local and national newspapers and magazines have different readership patterns, which means that advertisers of specific products and services select where to place an advert depending on their desired audience.

In direct marketing, geodeomgraphic classification systems can also be used in "above the line" marketing analysis. For example, poster sites are selected because of the sites' catchment areas, particularly a preponderance of desired neighbourhood types. Similarly, given the audience profile of television viewing patterns by channel over a day, it is also possible to target television advertising.

For completeness, whatever the approach of direct marketing, particularly direct mail, it would be unreasonable not to comment on its apparent bad name in some quarters. "Junk" mail is highlighted when companies send mail to people who have moved away months or years ago, or worse, who have died. It is noted that the Mailing Preference Scheme exists as a central body to register individuals who do not want to receive any unsolicited mail. While there are time lapses in its updating process, the Mailing Preference Scheme is available to all list suppliers and owners for a small fee.

Some positive action is required to enhance the perceived professionalism of this growing industry. It is necessary here to note briefly some of the issues and possible solutions; while

a perfectly up-to-date system may not be tenable, there are real opportunities for better and more informed practice. It is appropriate to consider the two issues of "goneaways" and "deaths" separately; as the Electoral Roll is the only current database with a supposed national (names and address) coverage, it is also relevant to note some of its characteristics.

The existing scale of household movement, approximately two million or ten per cent of households move each year, means that "goneaways" is areal practical problem. No central database exists currently that is explicitly concerned with household movement (although, in the future, this feature should be a central component of the maintenance of the Community Charge Register). The annual Electoral Roll can permit some updating, but neither comprehensively nor on say a monthly basis. The recently enhanced Post Office service for redirecting mail could be useful, if movers would permit their names to be passed onto the direct mailing industry. In some countries in Europe, the redirection service is available free of charge and the majority of movers use it (compared with approximately a quarter of movers in Britain). After a mailing campaign, "goneaway" returns are sometimes pooled by some computer bureaux operating so-called Nixie banks; however, this updating process is directly dependent on the coverage of the original mailing and the actual returns.

Mailing to a dead person is obviously an upsetting experience for the family and an undesirable outcome for the marketing effort. Deceased names and addresses can be added to the Mailing Preference Scheme if the new occupants or relatives take appropriate action. On the other hand, all deaths have to be registered and they are held by the Office of Population Census and Surveys. Such lists of names and addresses, however, cannot be supplied, because it is prohibited explicitly by (1837, 1949 and 1953) Acts of Parliament; hard copies of individual certificates are available at £5 each. The establishment of this list for the approximate total of 600,000 deaths per annum would be probably prohibitively expensive for any individual company.

Today, the only practical means of cleaning a mailing list is to use the annually updated Electoral Roll. This register is collected by local authorities, and at least four different companies enter the data into their computers (although, inevitably, there are delays of months before completion).

It is worth mentioning de-duplication, as people sometimes receive a single mailout two or three times because their name is stored in different formats such as:

- Professor John R Beaumont;
- Professor John Beaumont;
- Professor J R Beaumont;
- Professor J Beaumont;
- Professor Beaumont.

Using computer processing power to match names and addresses, it is possible to suggest that this is the same person and to send him only one mailing.

Ultimately, the attention to the accuracy of mailing lists will be driven by market forces. Improvements in lists should enhance response (and also reduce annoyance), thereby reducing costs. Once the economics of this involved and large-scale cleaning process are attractive, a company will take the lead and their mailing list will become the new de facto standard. In the interests of the consumers, as covered by the Data Protection Act, should some assistance, both financial and legislative, be given to list cleaning?

Finally, will lists become available from national companies with a large coverage of consumers' names and addresses? Post-AT&T's diverstiture in 1984, the AT&T Consumer Connection was established to explore the opportunities to use the company's database as a new revenue stream. British Telecom's Yellow Pages are available already for business-to-business direct marketing; notwithstanding regulatory constraints, British Telecom, British Gas, and other companies all have personal data that would help establish up-to-date consumer databases for marketing.

5. Discussion

For marketing management, there is no longer the need for decision-makers not to have access to a lot of the information they require to perform their duties. None of their problems are new, but the risks associated with their decision-making are heightened in today's competitive business environment.

Marketing management realise the power of local information describing the pattern of demand for their products and services. Much progress has been made because of the availability and refmement of tools for market analysis, matching supply and demand over space.

Since CACI' s provision of geodemographic analyses in 1977, a number of other companies have entered the market. In terms of strategic positioning, it is interesting to note that, to varying degrees and with different specific emphasises, the evolutionary stages of service provision and development are from data provision through statistical/analytic consultancy to decision support systems.

The market analysis industry will continue to grow in the future, and, to conclude this introduction, it is appropriate to highlight two basic reorientations :

* the reduced reliance on Census data;

* the evolution to full consultancy services, rather than simply data providers.

While the proposed use of postcodes for locational referencing in the 1991 Census of **Population should overcome some of the existing locational inaccuracies of** postcode-Enumeration District linkages, there will be less reliance on Census data as companies develop market-specific systems based on their own data about their customers' lifestyles.

The desire for access to individual household or micro-level data raises important issues. For many users, the requirement is not for access to micro-level data per se; instead, the need is for flexible micro-level storage to ensure aggregate data can be provided for suitable functional or problem-specific base spatial units (rather than merely Census Enumeration Districts). Exploratory research being undertaken at Birkbeck College (see, for example, Rhind and Higgins (1988)) involves the development of an on-line information service to query a database of individual Census records. If individuals/households cannot be identified and assuming no "unreasonable" intrusions into privacy, the system permits data for a particular area or groups of people to be extracted and cross-tabulated as specified by the user.

With the globalisation of many markets (and deregulation catalysts, such as the single European Market of 1992), direct comparisons between countries will become increasingly important. Recently, for example, the French lifestyle surveys of CCA International have been extended by Euro Panel using a survey of 20,000 respondents to derive a segmentation scheme of Europeans by lifestyles. The resulting Euro-Styles is supposed to offer a comprehension of Europe's mosaic of cultures and marketing opportunities. 16 European groups are identified:

* "Euro-Business";

* "Euro-Citizen";

* "Euro-Dandy";

* "Euro-Defense";

* "Euro-Gentry";

* "Euro-Moralist";

* "Euro-Olvidados";

* "Euro-Pioneer";

* "Euro-Protest";

* "Euro-Prudent";

* "Euro-Rocky";

* "Euro-Romantic";

* "Euro-Scout";

* "Euro-Squadron";

* "Euro-Strict";

* "Euro-Vigilante".

In Britain, there is a preponderance of groups that resist change - "Gentry"s, "Prudents"s and "Strict"s!

With related developments in Geographical Information Systems (GIS), enhanced tools will be available for the "desktop marketeer". Methodological advances of the 1970's and 1980's should be incorporated in market analyses (because most of the techniques employed today date back to the 1960's).

More and more of the data analysis and reporting will be undertaken in-house, leaving the market analysis companies to offer value-added consultancy services. This situation will be **facilitated because on-line access to databases will develop and provision of** microcomputer-based systems will increase. CACI, for example, have launched INSITE, a comprehensive database and mapping system for microcomputers; reference should also be made to the successful BBC Domesday project using optical disks (see Owen et al (1986)). Donnelly Marketing Information Services have already introduced a CD ROM database containing demographic data for 250,000 neighbourhoods in the United States. For

completeness, we should note the possibilities of new information technology, such as personal information (credit-like) cards based on magnetic strips or optical technology.

The future of market analysis is likely to be helped by the Government's so-called "tradeable information" initiative, which is encouraging departments to consider the data they collect and store and to explore what data, if any, have a market value assuming confidentialities and original agreements are maintained (see Department of Trade (1986) for more details). Related legislation obviously involves the Data Protection Act and broader issues of civil liberties.

With the 1992 removal of internal trade barriers across the European Community (and the increasing globalisation of many markets), it is not surprising that all the British market analysis companies are looking seriously at Europe. Some companies, such as CACI, already have an extensive network. To date, the orientation has been founded on country-specific geodemographic discriminators. CACI, for example, have ACORN-type systems in Finland, France, Germany, Norway and Sweden. At the beginning of the 1990's when the next series of country Censuses are held, the development of a pan-European geodemographic discriminator would be attractive to marketeers and planners. It must be noted that this development would not be a trivial task; the scale of the exercise would be enormous, and it would be essential to ensure some consistency across different Censuses which contain different questions, different age-breaks, different industrial classifications and so on.

While this discussion of market analysis has been orientated towards Britain, for completeness, reference must be made to the large North American industry (for more details, see Flowerdew -and Goldstein (1989)) and the increasing attention being given to Europe by British-based companies (Beaumont and Inglis (1989)). There are more than twenty companies offering market analysis services in North America; a US company, Urban Science Applications, Inc., has now established an active British branch. The journal, "American Demographics", is devoted to this industry.

The outlook is an exciting future with many opportunities for applied geographers!

References

Baker, K (1989)"Using demographics in market research surveys", Journal of the Market Research Society, 31, 37-44.

Beaumont, J R (1987) "Location-allocation models and central place theory", in A Ghosh and G Rushton (eds), 'Spatial Analysis and Location-Allocation Models', Van Nostrand Reinhold, New York, pages 21-54.

Beaumont, J R (1988) "An overview of Decision Support Systems for retail management", Journal of Retailing, 64, pp 361-373.

Beaumont, J R (1989) (ed) "Market Analysis", special issue of Environment and Planning A, Non, London.

Beaumont, J R and K Inglis (1989) "Geodemographics in practice: developments in Britain and Europe", Environment and Planning A, 21, pp 587-6.94, 1

Beavon, K S 0 (1977) "Central Place Theory: a reinterpretation" Longman, London

Bentham, C G (1985) "Which areas have the worst urban problems", Urban Studies, 22, 119-131.

Berry, B J L and J B Parr (1988) "Market Centers and Retail Location: theory and applications", Prentice Hall Englewood Cliffs.

CACI (1980) "The Classification of Residential Areas and its Use in Marketing", CACI, London.

CACI (1983) "1981 ACORN Classification", CACI, London.

Charlton, M, Openshaw S and Wymer, C (1985) "Some new classifications of Census Enumeration Districts in Britain: A poor man's ACORN", Journal of Economic and Social Measurement, 13, pp 69-96.

Clarke, M C (1986) "Demographic processes and household dynamics: a micro-simulation approach", in Woods, R I and P H Rees, (eds), 'Population Structure and Models', George Allen and Unwin, London.

Daultrey, S (1976) "Principal Components Analysis", CATMOG 8, Geo Abstracts, Norwich.

Department of the Environment (1987) "Handling Geographic Information", Report by the Committee of Enquiry chaired by Lord Chorley, HMSO, London. (There is also a video to complement this report)

Department of Trade and Industry (1986) "Government held tradeable information: guidelines for government departments in dealing with the private sector", London.

Dewdney, J (1981) "The British Census", CATMOG 29, Geo Abstracts, Norwich.

Dewdney, J (1984) "The UK Census of Population 1981", CATMOG 43, Geo Abstracts, Norwich.

Dixon, C and Leach B (1977a), "Sampling Methods for Geographical Research", CATMOG 17, Geo Abstracts, Norwich.

Dixon, C and Leach, B (1977b) "Questionnaires and Interviews in Geographical Research" CATMOG 18 Geo Abstracts, Norwich.

Evans, I S (1979) "Relationships between Great Britain census variables at the 1km aggregate level", in Wrigley, N (ed) 'Statistical Applications in the Spatial Sciences', Pion, London

Flowerdew, R and Goldstein W (1989) "Geodemographics in practice: developments in -North America", Environment and Planning, A, 21, pp 605-616.

Gatrell, A.0 (1989) "On the spatial representation and accuracy of address-based data in the United Kingdom", International Journal of Geographic Information Systems, 3, pp 335-348.

Goddard, J B and Kirby, A(1976) "An introduction to factor analytical techniques", CATMOG 7, Geo Abstracts, Norwich.

Hamby, C R (1989) "New developments in demographic targeting: the implications of 1991", Journal of the Market Research Society, 31, pp 53-73.

Johnson, M (1989) "The application of geodemographics retailing - meeting the needs of the catchment", Journal of the Market Research Society, 31, pp 7-36.

Johnston, R J (1976) "Classification in Geography", CATMOG 6, Geo Abstracts, Norwich.

Moser, C (1961) "British Towns: a statistical study of their social and economic differences", Oliver and Boyd, London.

Oliver, B (1987) "Which targeting systems", Direct Response, May, pp 42-46.

OPCS (1987) "Central Postcode Directory: Information Guide", Office of Population Censuses and Surveys, Fareham.

Openshaw, S (1975) "Some theoretical and applied aspects of spatial interaction shopping models", CATMOG 4, Geo Abstracts, Norwich.

Openshaw, S (1989) "Making geodemographics more sophisticated", Journal of the Market Research Society, 31, 111-131.

Openshaw, S, Cullingford, D and Gillard AA (1980) "A critique of the national census classifications of OPCS-PRAG", Town Planning Review, 51, pp 421-439.

Owen, D W, Green, A E and Coombes, M G (1986) "Using the social and economic data on the BBC Domesday disc", Transactions of the Institute of British Geographers, NS 11, pp 305-314.

Penny, N J and Broom D (1988) "The Tesco approach to store location" in Wrigley, N (ed) 'Store Choice, Store Location and Market Analysis', Routledge and Kegan Paul, London, pp 106-119.

Plummer, J.T (1974) "The concept of the application of life style segmentation", Journal of Marketing, 38, pp 33-37.

Rapp, S and Collins, T (1987) "Maxi Marketing", McGraw-Hill, New York.

Rhind, D W (ed) (1983) "A Census User's Handbook", Methuen, London.

Rhind, D W and Higgins M (1988) "Customer-selected results from the 1991 Census", BURISA, 82, pp 7-9.

Rothman, J (ed) (1989) "Geodemographics", special issue of the Journal of the Market Research Society, 31 (1).

Sleight, P and Leventhal, B (1989) "Applications of geodemographics to research and marketing", Journal of the Market Research Society, 31, pp 75-101.

Thrift, N J (1978) "An introduction to time geography" CATMOG 13, Geo Abstracts, Norwich.

Webber, R J (1978) "The national classifications of residential neighbourhoods: an introduction to the classification of wards and parishes", PRAG TP 23, Centre for Environmental Studies, London.

Webber, R.J (1979) "Census Enumeration Districts: a socio-economic classification", Occasional Paper 14, HMSO, London.

Webber, R J (1985) "The use of census-derived classifications in the marketing of consumer products in the United Kingdom", Journal of Economic and Social Measurement, 13, pp 113-124.

Webber, R J (1989) "Using multiple data sources to build an area classification system: operational problems encountered by MOSAIC", Journal of the Market Research Society, 31, pp 103-109.

Whitehead, J (1987) "Geodemographics - the bridge between conventional demographics and lifestyles", ADMAP, May, pp 23-26.

Wrigley, N (ed) (1988) "Store Choice, Store Location and Market Analysis", Routledge and Kegan Paul, London.

Newsletters

- CACI's newsletter "Market Analysis Today";
- CCN's newsletter "Vision;
- CDMS's newsletter "New Generation";
- Pinpoint's newsletter "PiN Data".

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