

Leisure Research: The Exploration of Alternative Approaches to Data Analysis Procedures

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INTRODUCTION

The multi-faceted nature of leisure research is an area where exploration of alternative research strategies is necessary. The distinction of objective and subjective foci of leisure (Iso-Ahola, 1980) has fostered gaps in research findings (Kelly, 1980). An emphasis on standard, traditional, survey response data analysis approaches has impeded theoretical development within the field, particularly where the subjective notion is concerned.

Contemporary technological developments have provided researchers with the potential for exploration of alternative data analysis approaches. The Entity-Relationship approach to logical database design allows flexible and adaptable manipulation of textual data. Previously, it was necessary to numerically code textual data for manipulation purposes with computerized statistical packages. Such packages can incorporate implicit, preconceived notions concerning the nature of data to be analyzed. Thus, the nature of collected data, necessary for traditional analysis procedures, influences the development of collection instruments and can bias research endeavours. These conditions have not provided for the desired developments in understanding of leisure phenomena (Kelly, 1980).

THE ENTITY-RELATIONSHIP APPROACH TO LOGICAL DATABASE DESIGN

The notion of Entity-Relationship (E-R) has been a subject of discussion in philosophy for years (Chen, 1983). Research concerning this approach flourished in the early 1970s. Although it had been used prior to this in information systems fields, few papers or research findings had been produced (Chen, 1983). Several motivations for an increase in research pursuits are noted.

The E-R approach requires a different conceptualization of information handling and reporting than previous models. A distinction is drawn between "logical" and "physical" database design enabling "real world" information handling needs to be pre-eminent (Avedon, 1987).

An entity is anything to which a noun or noun-phrase can refer to; it is a "fact" (Kent, 1983). It is a thing which can be distinctly identified (Chen, 1977). A distinction can be drawn between three types of entities: people, things, and events (Avedon, 1987). Entities are maintained as "sets of attributes". Attributes are properties of an entity which provide a description or definition (Chen, 1977) of an entity. Associations and connections between entities, called "relationships", are defined and are maintained in the database (Avedon, 1987). A marriage is an example of a relationship between two entities (people) (Chen, 1977). The E-R approach enables establishment of connections between two or more independent entities, offering an efficient and flexible approach to information management and reporting design (Avedon, 1987).

Retrieval of information is possible from any place in a E-R model which is deemed to be the logical access point in the structure by a user. This enables modelling of information in a more realistic manner with respect to intended use. This occurs in a similar manner to that of human memory retrieval systems. The appropriateness of such an approach is evident when compared to contemporary statistical analysis packages. The E-R approach "does not require a user to view information in only one perspective, nor does it force making facts fit a preconceived database architecture" (Avedon, 1987, p.11).

Application of the E-R approach to logical database design has been applied in several situations. Although not previously applied in an analytic context, the E-R approach could prove viable. Many computer programmes attempt to simulate the real world (Chen, 1977). Traditional statistical analysis packages, by use of numerically coded human responses to survey questions, attempt to simulate real world situations. The degree to which such simulation is accurate and meaningful is at issue. The E-R approach may enable the simulation of actual responses without recourse to coding (Avedon and Bishop, 1987) and thus provide a unique understanding not previously available in research.

METHOD

Three separate analyses are undertaken: two approaches were concerned with analyzing collected survey response data, and the third analysis consisted of a comparison of results generated from the first two. The traditional, statistical package approach is represented by use of the SPSS-X system and the E-R approach is depicted through use of an application developed in the database language ZIM. Identical survey response data are analyzed with each approach in an attempt to achieve stated research objectives.

Various procedures were used with each approach. The traditional statistical package approach depended upon standard, pre-determined, and pre-developed procedures, while the E-R approach used flexible procedures developed within a framework concerning the stated research objectives. The comparative analysis was conducted in a subjective manner with concern directed to the level of achievement of the objectives.

RESULTS

In attempting to achieve the stated objectives it was observed that the E-R approach provided a more useful interpretation of textual or nominal level survey data. However, numerical or ratio level data was handled more appropriately with the traditional procedures. It is recommended that subsequent research is necessary to further explore the use of the E-R approach as an analytical tool in development of leisure related theory.

DISCUSSION

Discussion focuses on the implications resulting from inappropriate, or misconceived, use of traditional data analysis techniques as a tool in leisure theory development. This contention relates to concerns addressed by researchers in initialization of the research process where data analysis techniques are often decided before a survey instrument is developed. Thus, theory development could be dependant upon desired analysis procedures and impede the desired progress sought by leisure researchers.

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