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THE VIDEO CASSETTE RECORDER (VCR) AS AN OPTIONAL
SERVICE DELIVERY TOOL
presented by

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has been accepted towards fulfillment
of the requirements for

Ph.D. _____ degree in Agric. Ext. Ed.


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Date August 10, 1990

**THE VIDEO CASSETTE RECORDER (VCR) AS AN OPTIONAL EXTENSION
SERVICE DELIVERY TOOL**

By

Patrick Emeka O. Anyanetu

A DISSERTATION

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

DOCTOR OF PHILOSOPHY

Department of Agricultural and Extension Education

1990

ABSTRACT

THE VIDEO CASSETTE RECORDER (VCR) AS AN OPTIONAL EXTENSION SERVICE DELIVERY TOOL

By

Patrick Emeka O. Anyanetu

The purpose of this study was to examine the potential of the video cassette recorder (VCR) as one alternative for delivery of extension services to the Cooperative Extension Service clientele in a changing information environment. Through the examination of the current media usage, study sought to determine if the VCR can replace some aspects of the current instructional and educational information delivery methods.

Two hundred and thirty clientele drawn from the mailing list of the Cooperative Extension Office in Washtenaw County, Michigan, participated in the study. They were asked to respond to a mailed questionnaire that covered the following areas of inquiry: 1) how VCRs had affected their media usage; 2) to what extent were the respondents with VCRs different from those without; 3) were the respondents willing to support Cooperative Extension Service video programs should they be provided? 4) what were the

perceived advantages for adopting extension videotape programs over the traditional extension delivery methods?

The questionnaire data analyses resulted in the following major conclusions:

1) the overall media usage patterns have not been substantially affected by the VCR;

2) over half of those with a VCR use it for gratifying needs by selective recording of programs to be viewed at a later time (uses and gratification, Blumler et al., 1979);

3) many are willing to support extension video programming as well as pay fees for extension video if such videos are provided, an indication of the goal-directed purposive behavior, Katz et al. (1974);

4) the majority of VCR users perceive it as a means of improving skills and acquiring more agricultural competencies in the privacy of their farms (uses and gratification, Blumler, et al., 1979).

5) with 68.8% of the respondents owning VCRs, it is evident the Extension Service reaches a greater number of high-income individuals, and may thereby contribute to the existing information gap between rich and poor clientele documented by Tichenor, Olien and Donuhue (1971).

ACKNOWLEDGEMENTS

This academic sojourn would not have been embarked upon had it not been for my teacher, friend and chairperson of my dissertation committee, Dr. O. Donald Meaders, whose ideas about solutions for rural development and agricultural education spurred me on to this endeavor. Equally, my gratitude goes to the other members of my committee, Drs. Carroll H. Wamhoff, Joseph Straubhaar and Joseph Levine for their untiring efforts in guiding, criticizing, suggesting, and encouraging me on to a successful end of this academic sojourn.

Dr. Carroll H. Wamhoff will always be remembered for going beyond the call of duty in directly providing financial support or soliciting same from colleagues even at the risk of dents to his personality as chairman of my department. Words are simply inadequate in expressing my gratitude to Dr. Wamhoff. My gratitude also goes to Sandi Bauer, Administrative Assistant to Dr. Wamhoff for her untiring effort at squeezing out funds from her tight budget and her patience with my endless request for attention. Similar thanks to Mary Pierce and Diane Verlinde for their wonderful secretarial support and the production of the study report.

I wish also to express my gratitude to the Associate Dean and Director of the Office of Academic and Student Affairs, College of Agriculture and Natural Resources, Dr. Taylor J. Johnston, for providing the financial assistance at the last lap of the race when it had seemed impossible to obtain any form of financial assistance. Similarly, my thanks to the Sage Foundation for supporting this dissertation.

My gratitude is also expressed for the six-week quarter assistantship from the Agriculture Marketing Program, Cooperative Extension Service, Michigan State University, without which this dissertation would not have been possible. I am grateful to the Director, Dr. Frank Brewer for his magnanimity and tolerance, to Ms. Susan Smalley for her invaluable criticism and assistance in producing the draft questionnaire, providing transportation to Washtenaw County, and stamps for the questionnaire.

Gratitude is also extended to Mr. Morse Brown, the then County Extension Director, Washtenaw County, now with Wayne County, who not only readily approved conducting the study in his County, but also enlisted the full cooperation of his staff. I shall always remain grateful to him and his staff, particularly Joseph Bill Ames, who ably filled in when Mr. Brown moved over to Wayne County. Of course, my thanks to Mr. Ken Hinds for assistance with word-processing expertise.

This acknowledgement will be incomplete without the mention of my mentor and then head of Department at the University of Lagos, Professor Alfred Opubor, who enkindled in me the fire of agricultural communication. Despite my inadequacy, Dr. Opubor made it possible for me to undertake this sojourn at this great institution. He shall always remain my beacon.

I gratefully acknowledge those who paved the way for me to be here, particularly, my then Director of Forestry, Dr. Anthony M. Oseni, his Assistant Director, Mr. Kola Aladejana, and the then Southwest Zonal Assistant Director, Mr. George Igugu and others whom shortage of space does not allow their individual mention.

Of course the greatest part of my gratitude goes to my family, especially to my children, Uzoma, Onochie and Chukwuemeka for enduring so much neglect and hardship as I juggled academics, raising a family, and joblessness.

Finally, special thanks to Dr. O. Donald Meaders for insisting that this task be completed. Don I shall for ever be grateful.

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CHAPTER I

INTRODUCTION

Media Background

With television and electronic media becoming part of our everyday life, people have lost control to the electronic media over what images flow into their homes and minds through the television set. With the television industry becoming a sellers market, programming and time scheduling remained the prerogative of the giant television networks as they compete to hold our attention. With the cost of production and broadcasting as well as profit all coming from advertising revenue, the networks never relent in their production of more compelling programs in their quest to capture and retain viewers attention (Scherer, 1987).

The arrival of home video recorders within the decade has changed all that, as it opened a new era in the use of broadcasting and communication. Levi (1980) in a landmark study, noted that video cassette recorders (VCRs), along with cable TV, pay TV, and other new telecommunication technologies, were reshaping the home electronic environment. The diffusion of VCRs has been stunning. Starting from a mere

handful of earliest owners, a distinct upscale group with at least \$30,000 in family income, in late 1970, (Levi, 1980), to what is now becoming a common home appliance. Thanks to a rapid fall in price of VCR as the Japanese flooded the market with less expensive VCRs at about a third of the earlier cost, making them more affordable (Boyd, Straubhaar and Lent, 1988).

VCRs are set to restructure how people process and utilize mediated information. After a modest 2.3% penetration of United States homes in 1980, VCR ownership reached 39% in 1986 and by 1988 had passed 52% (TV Digest, 1988), and is expected to exceed that in the years ahead (Greenberg, 1988). Rogers and Picot (1985; p. 108), noted that the very nature of work-life may be changing due to the impact of new communication technologies such as video recorders, computer and electronic messaging. Similar observations were made by Williams (1982; p.158) and Compaine (1983), predicting profound changes in life styles, jobs, and in the way we seek and process information (Scherer, 1987).

Cooperative Extension Service

The reality of the impact of video is the extent of disruption in the established mass media usage pattern. As Scherer (1987) observed, organizations such as the Cooperative Extension Service, which are charged with the distribution of research based knowledge, have traditionally relied on communication methods such as face-to-face meetings, public

service spots on AM radio and television, and printed bulletins to communicate with audiences. With the changing information environment, needs and patterns of information utilization are bound to change along with the changing media technologies.

Compounding the situation is the relaxation of requirements by the Federal Communication Commission (FCC) which no longer requires broadcasting houses to provide free public service spot announcements as evidence of serving public "interest, convenience and necessity" to retain their licenses. According to Scherer (1987), public service spot announcements used to be a prime method of disseminating Cooperative Extension Service (Extension Service) messages to the public. The implication of which is that the Extension Service will now have to buy its media time. Another reason for concern is the escalating cost of production of bulletins and other informational pamphlets.

Besides the administrative changes in radio and television station operation, radio broadcasting is undergoing rapid technological changes. The result is that the use of radio messages is on the decline as Frequency Modulation (FM) radio with its all-music format, continues to undermine Amplitude Modulation (AM) radio, which is formatted for talks and broad-based programming (Scherer, 1987).

With the ever shrinking Extension Service budget, the extension of the expert voice at an acceptable cost is being

viewed as a justification for the use of mass media in education/information projects (Hornik, 1987; p.3).

Budget constraints presently have brought about a temporary reduction in hiring of new personnel in the Michigan Cooperative Extension Service despite a growing need for more people to be engaged, as is the case in most other states. Expanding demands for Extension Service programs without reciprocal increases in budgets, will probably result in loss of quality in the services rendered. The danger is that unless the Extension Service adapts to the changing media environment, by identifying other alternative delivery methods, there is the possibility of getting out of touch with its clientele. To do so is to endanger the Extension Service's very future.

Purposes

The purpose of this study was to determine the potential of the VCR as one alternative for delivery of extension services to the Cooperative Extension Service clientele in a changing information environment. Through the examination of the current media usage, the study sought to determine if the video cassette recorder (VCR) can replace some aspects of the current instructional and educational information delivery methods. Thus five objectives were raised:

(1) Determine the impact of the changing information environment on Extension Service clientele with emphasis on their media usage pattern.

(2) Determine if VCR could replace some aspects of the current CES information delivery system:

(a) Provide an alternative source of information beyond articles in farmer's magazines, bulletins, and other print sources.

(b) Could make for fewer visits with county agents, fewer meetings and less travel to distant demonstration plots.

(c) Determine to what extent clientele were ready to accept VCR technology as an alternative to face-to-face contact with Extension Service agents.

Research Questions

From the foregoing objectives tentative generalizations became necessary in establishing relationship among the variables of the study. Thus the following research questions were asked:

1) In what ways does ownership of a video cassette recorder (VCR) affect the general pattern of media usage by the Extension Service clientele?

2) To what extent are the clientele willing to accept Extension Service programs on videotape if provided by the Cooperative Extension Service?

3) Are there perceived advantages for adopting Extension Service videotape programs over the traditional delivery methods?

Importance of the Study

Given the on-going changes in media technologies, the Extension Service cannot afford to sit and wait until overwhelmed by these changes. As primary users of mass media, they need to know how the present changes affect clientele information access and processing.

Already budget constraints have made meeting the increasing needs of Extension Service clientele urgent. The Extension Services's responsibilities have been growing in scope without commensurate growth in budget allocations. In the past three to four decades the Extension Services have gone beyond the traditional rural clientele to include those in the urban areas. With that came the complexities of modern living such as unstable family structures, environment pollution and other natural disasters, which keep stretching both human and material resources of the Extension Service.

For the Extension Service to continue playing its traditional role to all its clientele, much has to be known about the clientele's need for instructional information and their information seeking behaviors in view of the multiplicity of choices presented by the expanding media environment. Thus new options for delivery of extension services

have become urgent. One such option may be the use of the video cassette recorder (VCR). Not much research has been done on the educational uses of VCR, but the little that exists suggests it may offer opportunities for the delivery of instructional and educational information.

Methodology

To answer the questions raised, the study focused on the development and implementation of a research design, which controlled for variables that might have subsequently threatened the study's internal and external validity. Instrumentation development was subjected to controls for validity and reliability assessment to insure accurate, appropriate and comprehensive treatment of subject matter materials.

Quantitative methodology was used in conducting this study. A stratified sampling procedure (Babbie, 1983) was employed in selecting the sample from the survey population. Being an exploratory study, descriptive design was considered appropriate since the aim was to document the current media usage pattern of the Cooperative Extension Service clientele in relation to how the clientele might accept the use of VCRs for Extension Service delivery of educational and informational programs.

The data were collected through the distribution of a self-administered mail questionnaire as recommended by

Dillman, (1978). Data taken from the returned questionnaires were analyzed, summarized and reported as conclusions with recommendations. Details of the methodology are presented in Chapter III.

Assumptions and Limitations

As an exploratory study basic assumptions were made. First, it was assumed that the respondents would be able to read and complete the questionnaires. Second, that those with VCR have been making use of them for both entertainment and learning activities. Third, that their responses would be as accurate as possible.

For limitations, the selection of the sample from a list of only those registered with agricultural and horticultural programs constituted a limitation since there were three other main programs. The geographic location of the sample could also have constituted a limitation since the study was conducted in one county.

Another limitation was the inherent contradictory nature of the theoretical framework of this study. According to Littlejohn (1983; p. 290), the uses and gratifications approach is still new and underdeveloped. Part of the criticisms that have been leveled against the theory is that, it is unclear whether needs constitute a mediating variable or a dependent variable. No one has been able to state whether needs lead to media use, in this case, VCR use, or if media

use (VCR use) cause gratification of needs. For the purpose of this study, the assumption is that felt needs cause people to seek ways to satisfy or gratify the desire.

Definition of Terms

Media technology being an evolving technology, it was necessary to define some of the terms and expressions used in this study so as to facilitate the understanding of the research problem. Moreover, as research on VCR usage is still at its infancy it is necessary to state certain definitions used in this study.

Videocassette. A videotape that has been packaged in a cassette housing (Compesi and Sherriffs, 1985). Videocassette and videotape are used interchangeably in this study.

Videotape. An oxide coated plastic used to record the video and audio television signal.

Videocassette Recorder (VCR). An electronic appliance that records video and audio signals (electronic energy by sound and visual) onto a videocassette and can also be used to playback such video and audio signals.

Media Exposure. Frequency of viewing or listening to television/radio or reading of publications.

Extension Clientele. Residents of a county who avail themselves of the services of the Cooperative Extension Service.

Extension. Extension/Education. Describes a special type of problem-solving, action oriented education that instructs, demonstrates, and motivates, but does not regulate or provide noneducational programs (Interpaks, Series #1).

Traditional Delivery Service. Any form of face-to-face instruction or skill transfer from an agricultural extension person to clientele, including the distribution of printed agricultural information.

Cooperative Extension Service. An educational service agency created by federal legislation through the Smith-Lever Act of 1914. The Act authorized educational programs in agriculture, home economics and related subjects to be funded by federal, state and local governments and administered through the same three bodies, hence the term "cooperative".

Summary

This introductory chapter started with a background of the social context in which the problem addressed by the study originated. Use of VCRs by Cooperataive Extension Service clientele was identified as the main subject of the study, and a synopsis was given of the development of the VCR technology and its rapid diffusion in the nation.

The objectives of the study were identified as determining the impacts of the changing information environment on Extension Service clientele with emphasis on clienteles' media usage pattern, with a view to determining

some of the potentials of VCRs in the delivery of instructional and educational information programs.

Additional information about related research and methodology may be found in chapters II and III.

CHAPTER II

LITERATURE REVIEW

Introduction

A number of conceptual issues were raised in this literature review in order to bring into focus the framework of this dissertation. The review starts with a brief examination of the philosophical mandate of the Extension Service of meeting the people at their various levels. As mass media have a significant role in extension education, a review of their development, particularly that of television is provided in order to provide background to the theoretical framework on which the dissertation was based. Finally, the literature on the VCR's development, uses, particularly in relation to television, and its applications to educational program delivery, is reviewed.

Philosophical Base of Extension

The philosophy of those pioneers who gave leadership to the Cooperative Extension Service included an assumption that people must be reached where they are... that is, at their present background of education and level of interest and understanding. It was also assumed that the aims and objec-

tives of Cooperative Extension Service must be modified over time on the basis of individual and social needs (Raudabaugh, 1974, p. 31).

To say that the Cooperative Extension Service has embraced a philosophy of change is not only in keeping in-line with its own mission, but also is a basis for ensuring its very existence. Thus, in this ever-changing information environment, adapting to the changing communication technology becomes imperative to maintain the delivery capability of the Extension Service.

Theoretical Framework

According to Rubin and Bantz, (1987, p. 471), research on the avoidance of commercials suggests that VCR users demonstrate Blumler's (1974), Katz and Blumler (1979), activity dimensions which were based on the uses people have for communication. They also reported Yorke and Kitchen (1985), to have found that VCR users typically fast-forward past commercial messages (i.e. zipping), when watching programs or paused their recorders when taping (ie, zapping). Mahoney (1984), also had earlier expressed concern about VCR owners who shift time by recording programs for viewing at their convenience, thereby "taking programming into their own hands." Similarly, Boyd, Straubhaar and Lent (1988), described VCR as enabling people to "improve" or personalize their television viewing.

From the foregoing, there is a need for a better understanding of the motives and usage patterns of VCRs, particularly that of extension clientele if the Extension Service is to avail itself of the potentials of this new technology in meeting media usage of its clientele. To do this Blumler's (1974) theory of uses and gratifications provides a suitable framework for such an exploration.

Katz and Blumler (1979), postulated three assumptions that:

- (1) the audience of mass communication is active and goal directed;
- (2) the audience members know their needs and seek out ways to meet these needs; and
- (3) related to the above two, is that media compete with other sources of need gratification.

In short, that out of the options that media present, the individual chooses ways to gratify needs.

Known as the uses and gratification theory, the theory focuses on the consumer rather than the message. The person is seen as an active selector of media communications, unlike the earlier theories of mass media, which portray the person as a passive receiver. The paradigm of this theory is that it explores the consumer's communication behavior in terms of the consumer's direct experience with the media.

VCR technology allows audience selectivity, choice control and participation when the individual employs it in communication. According to Rubin (1986, p. 293), audience use

of television can be described as primarily ritualized or instrumental in nature. While instrumental television might indicate audience utility, intentionality and selectivity, ritualized television use might indicate utility but an otherwise less active audience condition. In an earlier study Levi and Windahl (1985), stated that the VCR provides a logical focus for assessing communication utility because recording provides an effective means of facilitating an individual's desire to communicate.

The desire to communicate, as in using the VCR, is central to an individual's self-concept. As stated by Bandura (1977a), witnessing other behaviors will influence an observer to engage in those behaviors. Explaining the social learning theory, Bandura states that if the observed and modeled behaviors are central to an individual's self-concept, then the consequences associated with their display will affect the person's self-efficiency (Bandura, 1977b). The key concepts are modeling and social reinforcement which are essential in the process of observation and imitative learning. When applied to the VCR's social context use, positive consequences for family, group cohesion, and individual self enhancement could be outcomes.

Research on television generally projects the viewers' immediate friends and family as important influences on how television is used (Dutton, Rogers and Jun, 1987, p. 233).

Similarly, transmission and sharing of information, along with values and norms, could be fostered through watching VCR

programs central to the individual's group self-concept. This thinking is supported by Roe's (1983a), finding that adolescents are known to use VCRs for specific purposes such as the reinforcement of peer-group autonomy and display of disapprobation with adult authority.

Mass Media and Development

Consequently, developments in the mass media have always been of interest to Extension Service practitioners. Mass media has been an important tool for Cooperative Extension Service agents. Until recently it was believed to be the magic transformer of societies, Lerner (1958); Schramm (1964); Rogers and Shoemaker (1971); Rogers (1976); and Rogers (1983).

Over the years, researchers have found that other variables, especially the socioeconomic structure, have equally important roles to play in agricultural development, Frey (1952); Bordenave (1972); Beltran (1974); and Rogers (1976). Another such researcher and rural worker, Uma Lele (1975), identified the agricultural Extension Service as one of the key factors in improving productivity and income of farmers. Accomplishing these ends necessitates having access to information through an Extension Service agent and other available supplementary sources. However, agents are often in short supply. As Lele indicates, "Extension Service agents are in such a short supply that only a fraction of farmers can be reached. With mass media, some information could get to a much larger proportion of the target population."

Other researchers (Horniks, 1988; Randall, 1981) seem to endorse the substituting for or enhancement of Extension Service agents by the use of mass media. The expanded use of mass media could lead to reducing costs and saving time, (Randall, 1981), reaching more distant clientele and impacting more heterogenous clientele. Extensive studies have been done on mass media as a tool of development, especially in areas of social and economic development. Among the existing arms of mass media, radio and television have proved to have been the most extensively used media for instructional purposes.

Such studies have shown that radio has been the most extensive and globally used medium for instructional purposes. A comprehensive study commissioned by the World Bank shows radio as a pivot of many national development efforts. Four major areas of use were identified: (1) self enrichment through learning; (2) direct instruction; (3) extending in-school education; and (4) assisting distance learning. The study also showed extensive increase in the use of radio in national mobilization for development (Jamison and McAnany, 1978, p. 29).

But of all the arms of mass media, television appears to have drawn highest research attention. Dubin and Headley (1969), compiled 381 case studies on television as an instructional medium in a follow-up comparison to an earlier study by Schramm and Chu (1966).

In their study, Schramm and Chu examined 421 cases of instructional television projects to determine if there were

differences in favor of television to classroom instruction. Their findings showed no significant differences. Other studies have followed since then without any significant difference from Schramm and Chu's (1966) findings, Wells (1977) and Adams (1982). As Wells (1976) aptly noted: "While students learn from any medium, they learn more when the programs are carefully planned according to principles of good teaching".

Today the instructional use of television, particularly for cognitive and affective learning, has developed into a permanent feature of most big cities' higher education establishment (Purdy, 1983). Unlike the earlier days of television when classroom use of television was the focus, narrowcasting of educational program is now becoming the norm. For example a study by Munshi (1980), showed that most universities have established instructional television or telecourses to boost enrollment and reach disadvantaged students. This is similar to the British's Open Air University and the United Nations University of the Air. Perhaps, the most developed is that of China which has been described as the largest distance education in the world McCormick, (1986). At these institutions, students receive lectures and instructions through direct broadcast or narrow cablecasting, but come to the institutions for laboratory sessions and examinations. Rogers and Picot (1985) reported on two projects utilizing instructional telecasting principles to boost agricultural development.

The Green Thumb project (Extele) sponsored by the U.S. government and conducted by Stanford University, is providing Extension Service information at a distance to participating farmers in two counties of Kentucky (Rogers and Picot, 1985). The other is the Oklahoma State University instructional satellite project funded by the Kellogg Foundation to provide extension service information nationwide (Halm, 1988). So far these two projects are in their initial stages and therefore it is too early to have objective data on their achievements.

Historical Development of VCR

SONY Corporation first started recording moving images on magnetic tapes back in 1953. Not even when the United States based company, Ampex Corporation, became the first to begin developing and marketing video recording equipment with greater fidelity than film, was research interest shown in video. Nor was there any change in attitude by researchers fourteen years later, when the first low-cost black and white compacts, fore-runners of what we have today, became available in 1967 from SONY of Japan (Beninger, 1982).

SONY, with this compact version, placed the do-it-yourself TV into the hands of consumers. There was no halting of the inevitable as the concept of personal TV struck immediate responsive note in many people, and the concept of decentralization of media, finally seemed to have become a reality (Beninger, 1982).

Gradually, video systems began to find more uses in schools, cable TV stations, hospitals, businesses and homes. The following years saw considerable improvement in video systems. The technology gradually moved from a heavy, black and white recording system to sophisticated color recording and editing system, giving excellent reproductions of all sights and sounds of real life at a relatively low price (Communication Research Trends, 1985).

Despite its attractiveness, the VCR did not receive much research attention. According to Levy (1980), the VCR has been credited with opening a new and uncharted era in broadcasting and communication. Despite arriving on the consumer market with other novel innovations, such as cable TV, video disk, direct satellite TV, teletext, and digital information systems, it has achieved the highest level of penetration of United States households, Levy (1987), Greenberg and Heeter (1987, p. 509); Greenberg (1988).

Despite the remarkable break-through into consumer markets, the VCR has drawn little or no scholarly attention. Levy (1980) and Agostino, et al. (1980) undertook the earliest known studies. Agostino, et al. (1980, p.35), concluded that the VCR was only a glorified extension of television broadcasting and was in no way a threat to television itself. Levy (1980), after a similar investigation, was more cautious. He agreed that the number of viewers lost to VCR was small, as VCR ownership was then minimal. However, he credited VCR with making it possible for VCR owners to record and watch TV

programs at more convenient time, time shifting. He also reported that the time-shifting capability of the VCR enabled it to be used as a complement to TV viewing. The time-shifting capability of the VCR make it possible for many viewers to stay close to current program offerings and thereby extending television program viewership. In a subsequent study Roe (1987, p.522), stated that the combined effects of the capability of time-shifting and the market for pre-recorded cassettes led to VCR being heralded as the vanguard of the age of selective media use and narrowcasting. From these studies emerged the conclusion that time-shifting was a product of greater viewer activity, involvement, control, and choice.

Further examining time-shifting in VCR usage, Levy and Fink (1984) noted that time-shifting has important theoretical implications for the transience of TV broadcasts, as it allows TV to be defined by audiences. This activity, they argued, is similar to other stored media activities such as books and magazines. Following this argument was the study by Rubin and Bantz (1987, p. 483), which went a step further to equate VCRs to mass media. They argued that the goal-directed nature of VCR users, in terms of their behavioral pattern of time-shifting, is one dimension of audience activity. As an audience, VCR users make decisions based on the perceived utility of those choices.

Also, they said that the use of VCR provides further evidence of individual differences in media consumers who are more active than it was believed in more direct inquiries. The

point here is that VCR users were found to be more motivated and intentional in their behavior, selecting what content to tape or rent and when to view it.

Another aspect of the study was the finding on interpersonal communicators. Rubin and Bantz (1987, p. 482) reported that VCR provides active interpersonal (e.g., social entertainment, sharing of taped content, being with children) and mass communication links (e.g., off-air taping, movie renting). Going further, they argued that a motive such as time-shifting illustrates the ability to meet mass and interpersonal communication wants and desires. With VCR utility paralleling some of the uses of interpersonal communication, Rubin and Rubin (1985) concluded that uses and gratifications theory is a communication perspective not limited to mass communication.

Recently Rubin and Bantz (1987) compared the uses of television to VCR. They found many similarities in the uses of the two. Motives for television viewing were stated to primarily include: surveillance or information seeking; diversion or seeking exciting entertainment; social utility or seeking interpersonal connection with others; and a habit of viewing to relieve boredom or fill time. On the other hand, even though the motives to use VCR are similar to those already mentioned for television, motives for using VCR have been found to be more goal-directed (Rubin, 1986, p. 294). VCR use reflects intentional selection of preferred types of programs and are more instrumental than ritualistic components

to VCR use. As Levy (1980a, 1981), observed, VCRs make television watching more convenient, that the primary use of VCR for time-shifting may augment the size of the viewing audience, and that early adopters used VCRs to complement and not to replace regular viewing patterns. In a follow-up study (Levy, 1980b) found that VCR households exhibit "strong patterns of program preference" and that VCR users specialize in the type of program they choose to record and most recently, concluded that VCR users were an active audience.

From the Rubin and Bantz (1987), study and other studies already cited, there is a local focus for assessing the communication utility provided by VCRs. By providing the individual with an effective means of facilitating the desire to communicate in our limited set of alternatives, the VCR stands out as an important medium of its own genre. As Wang (1986) puts it, "The VCR is a permissive medium that can be used and managed in different ways, transmit different needs and achieve different purposes". With the foregoing features, the VCR could be a powerful instrument that could be used to meet many needs of the extension service. The question at this point is whether the clientele are ready to accept VCR performing some of the functions hitherto performed by Extension Service workers on a face-to-face basis.

Extension Clientele and VCR

One cardinal rule in clientele service is that the unique characteristics of the clientele be kept in mind. The primary

reason why most people buy VCRs is to tape programs off the air while they are not at home. As the VCR became multi-functioned, such as the ability to record one program while another is being watched because the VCR has a built-in timer, separate from the tuner of the television set, and also editing features that locate particular spots on the tape. The VCR thus became an ideal tool for those interested in self learning as they could obtain study programs and later watch them at their convenience. With the introduction of cameras, lenses and microphones of all configurations, VCR offered more possibilities to meet a range of demands from entertainment through instructional to informational programming.

As stated in the theoretical framework, the uses and gratification approach takes the media consumer rather than the content (message) as the starting point and explores communication behavior in terms of the direct experience with the media. It views the members of the audience as actively utilizing media content, rather being passively acted upon by the media (Katz, Blumler, and Gurevitch, 1974). It is this quality of the individual actively utilizing media content that makes the VCR the ideal tool for the individual learner. With the VCR, the individual differences in learning ability and styles are well accommodated. Besides, the VCR offers the individual the choice of packaging lessons to fit with individual taste. For example, an extension clientele with a mini video camera may decide to shoot his own copy of a field demonstration, rather than pick up the Extension Service

version that might emanate from such a demonstration. With many Cooperative Extension Service offices already whetting their clientele appetite with trial runs of extension video as recently reported by Bay Ovid (1986), full scale production of video is likely to be well received by clientele. Furthermore, a multiplier effect is likely to emerge. The fact that extension videos are available are in themselves incentives for those with VCR to increase their program utilization as they could always obtain a video copy of programs they were not able to attend. There is also the possibility for many clientele to support on-farm learning by family or farm helpers learning in a number of significant ways.

Communication research is replete with studies showing mass media to be very effective in creating awareness. While face-to-face individual contact methods, such as farm visits and office calls that allow for personal attention and interpersonal network relationships to develop, are suitable for more complex problems (Rogers, 1983; Rogers and Kancid, 1981), there are possibilities that similar interpersonal network relationship could develop from mutual video exchange among those engaged in similar agricultural production.

The question is, with VCR can such group activity be easily and effectively handled without the conflict in scheduling? Even then, the question of effectiveness in attaining set objectives will have to be addressed as well as the cost effectiveness of the program. All these questions will have to be addressed by further investigations. While a

centrally produced tape, even at the high professional cost, could be much less expensive in teaching the same skill than a group demonstration tour would have done, it may not be adequate in addressing individual needs within the group, Levy and Windahl (1984, 1985), Gunter and Levy, (1987). On the other hand, centrally produced video tapes could be used in supplementing such group training. Just as corporate video, a terminology for staff training programs on video tapes, has become the norm with many organizations (Greenberg, 1988), videotape could be used in imparting skill and knowledge often taught at demonstration sites. Similarly, other clientele needs could be taped and dispatched to subject specialists to study and respond accordingly (Randall (1981). Other areas of traditional high interest subjects such as food canning, lawn care, nutrition and other popular subjects could be taped and distributed through existing video shops, county offices, and other available channels (Fedale, 1988).

As pointed out in the literature review, the VCR is its own television programmer, since it makes it possible for one to pick and choose from available messages, what to watch and when to watch it, Levy (1987, p. 468). That is one quality the Extension Service must not fail to consider and utilize.

With adults as the major target population of the Extension Service clientele, sensitivity to adult needs in a learning activity is critical. Adult learners need to feel they are in charge of their own learning (Knowles, 1975). Therefore, they focus more on self-directed learning in their

own privacy and at their own time. With VCR offering the learners considerable control over the learning activity, learners' interests are further aroused with the realization that they are in control of their own learning activities (Tough, 1967, 1978).

As Levy (1987, p. 467) puts it, "The VCR user is an active consumer, who decides what program, when and with whom to watch." With the VCR's versatility and ease of operation, it becomes the deal tool for the self-directed learner, opting for privacy in the non-intimidating privacy of his or her home. Take for example VCR's capability to freeze, fast-forward, and frame-by-frame replay of key areas. The VCR therefore, stands out as a viable tool to be considered when assisting adults in meeting special needs and gaining skills and knowledge, (Zuber-Skerrit and Kogain Pag,e 1984); Gunter and Levy, 1987; Rubin and Bantz, 1987; Brookfield, 1986).

As Randall (1981) points out, the VCR has already entered the picture in disseminating information to farmers. The nation-wide experimentation by a some Cooperative Extension Service, particularly Idaho, Oregon and Nebraska strongly supports the suggestion that the VCR stands to provide a viable alternative for extension information and education delivery.

Besides the advantages of supplementing Extension Service delivery efforts, the potential use of VCR in the delivery of educational programs to new clientele, makes for urgent consideration of options such as the VCR. Other advantages

such as lower budgets, less travelling time, thereby providing more time for extension staff to attend to other equally important matters are more of the reasons VCR should be given a serious consideration.

Summary

This review of literature started with an overview of the development of the VCR and how it has been meeting various needs of its users including: a) shifting programs to a more convenient time for viewing; b) increasing viewing opportunities by allowing recording on one channel while viewing another; c) providing an alternative to theater attendance as movies can be rented and watched at home, or directly recorded and watched later; d) controlling viewing content for children; e) controlling the content of what they watch by fast-forwarding past commercials when watching programs (i.e. zipping) or pausing their recorders when taping (i.e. zapping).

The purpose of the study was to examine the use of VCR by Cooperative Extension Service clientele, with a view to determining if video cassette recorder (VCR) can replace some aspects of the current instructional and educational information delivery methods. Since the Extension Service has to compete with others for the clientele's time, utilizing the potentials of VCRs, particularly since they are home appliances, might give the Extension Service the opportunity to

provide educational materials directly to its clientele for use in the privacy of their homes.

Few studies have been done on this evolving technology as a subject even among communication professionals. The theoretical framework was based on the uses and gratifications theory postulated by Blumler (1974). The theory considered the use of media as the gratification of human needs and motives. Other researchers have since then provided support of the theory with argument that cognitive motivations appear to lead to active news and information program viewing (Rubin (1981b, 1983, Rubin and Rubin 1982b).

Recently, Levy and Windhal (1985) provided similar support and specifically argued that VCR provides a logical focus for assessing communication utility by facilitating individuals' desire to communicate. VCR users were similarly described as active information seekers, desiring to select what program and content to utilize and at what time (Rubin and Bantz, 1987; Levy, 1987). The above description of the uses and motives of VCR users holds great promises for the Extension Service survival in this era of dwindling budget.

CHAPTER III

METHODS AND PROCEDURES

Selection of Method

Since the purpose of this study was to examine the impact of the VCR in the changing information environment with regard to the traditional mass media usage pattern, an exploratory study was selected as the appropriate design to adopt. Therefore, this descriptive study is aimed at documenting current conditions and attitudes of clientele of the Extension Service on the use of VCRs and provide reasons for the conditions and attitude as they relate to the adoption of VCR for Extension Service program delivery. Also, the relationships found among the variables will be used in drawing explanatory inferences.

According to Isaac and Michael (1975, p.6) descriptive research aims at describing systematically a situation or area of interest factually and accurately. Going a step further, Wimmer and Dominick (1987, p. 102), note that descriptive research describes what exists at the moment without any attempt to explain or make predictions from the result. Comparing that with analytical research, Isaac and Michael (1975) posit that analytical research describes and explains why the situation exists. The significant point from the

comparison is that analytical results allow researchers to examine relationships among variables and draw explanatory inferences.

Based on the foregoing, it was appropriate that this study be both descriptive and analytical, to provide adequate information for better understanding of the problems posed by the study. This was in line with Babbie's (1983) recommendation, which states that survey research is probably the best method available to the social scientist interested in collecting original data for describing a population too large to be observed directly. Babbie (1983, p.209), further stated that surveys are excellent vehicles for measuring attitudes and orientations in a large population. He described measurements as a "careful, deliberate observation of the real world, for the purpose of describing objects and events in terms of the attributes comprising a variable", (p. 101).

But other social scientists, such as Sudman and Bradburn (1986) caution on how the observations and definitions are made. They argued that the terms, attitude, opinion, and belief, all refer to psychological states that are in principle unverifiable, except for self report. One way to avoid the problem posed by individual self-report is to ensure that attitudinal objects are clearly specified, as well as a clear indication of and the critical aspects of the attitude to be measured, such as the affective, cognitive, and action. The advantage of this approach is that it helps to minimize ambiguity and also ensures respondents answer what they are

supposed to answer. Thus in drawing up a questionnaire, an intensity of attitude scale may be built into the response categories. But how does one precisely know that attitude is being measured? A further exploration of available research is desirable at this point.

According to Babbie (1983, p.380) measuring the intensity and the direction of an attitude provides a reasonably good measure of the variable under consideration.

Selection of Site

Since this study was exploratory, the following factors were used in selecting Washtenaw County Cooperative Extension Service as the site of the study:

- 1) availability of the four major program areas of Cooperative Extension Service consisting of Agriculture and Marketing, Natural Resources and Public Policy, 4-H Youth programs and Home Economics;
- 2) proximity to Michigan State University;
- 3) location within an agro-industrial area;
- 4) proximity to research facilities.

Like most other counties in the state, Washtenaw County has all the four program areas of Agriculture and Marketing, Natural Resources and Public Policy, 4-H Youth programs and Home Economics. It is near to Michigan State University where the researcher was based. The county to a large extent reflects the heterogeneity of the state's rich occupational

variety with its location in mid Michigan's agro-industrial zone. The County is located within the vicinity of three major universities with research facilities (Michigan State University, University of Michigan and Eastern Michigan University), thus placing its residents in a position to be familiar with dealing with survey questionnaires.

Washtenaw County is located in the southeastern portion of the lower peninsula of Michigan. Approximately 64 miles from Lansing, the state Capital, and about 43 miles west of downtown Detroit, and about the same distance north of Toledo, Ohio, placing the county in the industrial and commercial center of the state. Part of the rationale for this decision was to see if such a strategic location had any significant effect on Extension Service clientele use of services.

According to the U.S. Census Bureau (1980), Washtenaw County had a population of 264,748 of which 70.7% was urban and 29.3% rural. The population distribution compares well with that of the state at 9,262,078 with 70.7% urban and 29.3% rural (Garwood, 1986). The population was spread within 20 townships, 4 cities, and 4 villages (Washtenaw County Metropolitan Planning Commission, 1985). Since no other county is similarly strategically located, Washtenaw County appeared most suitable for the study and was therefore selected.

Population

The aim of scientific research is to describe the nature of a population, that is a group or class, subject variables,

concepts, or phenomena (Wimmer and Dominick, 1987). Identification of the population is therefore critical in the research process. According to Rossi (1983), there are two aspects to describing a population: the target population and the survey population. The target population is the collection of elements that the researcher would like to study. While the survey population is the population that is actually sampled and for which data may be obtained. Babbie, (1983, p.146), defined the target population as meaning, "all the members of a real or theoretical and hypothetical set of people to which we wish to generalize the results of our research". Similarly he defined survey population as the aggregation of elements from which the survey sample is actually selected (Babbie, 1983, p. 147).

For this study, the population was the entire agricultural clientele of the Cooperative Extension Service in the United States of America at the county level. However, it was beyond the scope of this study to cover the total target population in terms of time and resources that would have been involved. On the other hand, selecting the survey population from the target population, provided for a manageable scope of the study.

To determine the survey population, permission was obtained from the Cooperative Extension Office in Washtenaw County for the study to be conducted in the county with its clientele. Based on the choice of working with those involved with the agricultural programs of the county, selection of the

survey population was limited to those on the official mailing lists of agricultural and horticultural programs. Only those names on the mailing list of the agricultural and horticultural programs were used in selecting the sampling frame.

Sample

Babbie (1983, p.142) defined sampling as, "selecting a given number of subjects from a defined population". But adequacy of any sample depends on the details of the analysis. Similar recommendation for survey research by Sudman (1976: p.2), stated that there be at least 100 subjects in each sub-group and 20 to 50 in each minor sub-group whose responses are to be analyzed. According to Rossi (1983), a general rule is that the sample should be large enough, so that there are 100 or more units in each category of the major breakdowns and a minimum of 20-50 in the minor breakdowns. This was more than met by the sample size of 230 used for the study (Cochran, 1977).

Also recommended was the need for a sample to be representative through random selection from the target population. According to Borg and Gall (1983, p.244), a random sample provides for each individual in a defined population to have equal chance of being selected. Beyond this basic principle of representativeness, Babbie (1983) cautions for the realization that samples are seldom if ever "perfectly" representative of the populations from which they are drawn. However, he

acknowledged that probability sampling offers two special advantages. First, that they are typically more representative than other types of sampling and therefore biases are avoided. Secondly, that probability theory permits us to estimate the accuracy or representativeness of the sample (p. 165).

Again, because of the exploratory nature of this study and the limited resources, the sample was limited to those names on the selected mailing list for the Agriculture and Marketing programs of the Washtenaw County Cooperative Extension Service. Therefore the official list of all current clientele in the Agricultural and Marketing programs was used in selecting the sample for this study.

Because the sample was from two sub-groups of the survey population, that is, those whose names were listed with the agricultural and horticultural programs, with the later consisting of vegetable farmers and fruit tree farmers, stratification proportional to size random sampling was used in selecting the sample to ensure proportional representation of the three sub-populations. Sample size was determined by using the formula $(n = S^2/\alpha d^2 + S^2/N)$ Cochran, 1977)¹ and using a Table of Random Numbers (Babbie, 1983: pp. 496-497), 187 names were randomly drawn from a list of 741 names for the agricultural program. Following similar procedure, 31 names were drawn from a list of 116 names of the vegetable growers and 12 names were drawn from a list of 48 names of fruit trees

¹N = population size
 n = sample size
 S² = population variance

α = 0.05
 d^2 = bound of error

growers representing the horticultural program. Together, these three sub-samples gave a total of 230 subjects used for the study.

Measurement Procedure

Measurement for the study was by a simple method of assigning numerals to the various objects or properties that were used in the study for constructing the measuring scales. Since the study focused on attitudinal changes, established scales became handy. Thus a number of scales often used in mass communication and related research were used. According to Wimmer and Dominick (1987, p.58), the Likert scale is the most commonly used in mass media researches, because it allows for the weighing of each subject's responses. Subsequently, these can be added to produce a single score on the topic. Likert scales consist of a number of statements in respect to a topic, to which respondents could strongly agree, agree, be neutral, disagree or strongly disagree.

Likert scales are very popular with social researchers because of their relative ease of construction, the simplicity of response and the fact that otherwise unmotivated subjects can respond in little time.

Attitudinal measurement procedures used are discussed under instrumentation. To produce a Likert-type attitudinal scale, a large number of statements reflecting the three components of attitudes, i.e.: belief, emotional, and action were prepared and subjected to an editorial review. These were

later administered to a number of individuals for reactions. The reactions were subsequently analyzed to establish sets of discriminators to establish sub scales. These sub scales were further checked by individual judges for validity and followed by a pre-testing procedure.

Oppenheim (1966) describes several principles of measurement which should be followed in the construction and evaluation of an attitude instrument. Some of these principles include: (1) unidimensionality, (2) linearity, (3) reliability, and (4) validity. Unidimensionality and linearity are explained below, while reliability and validity will be discussed after instrumentation.

Unidimensionality

An attitude scale is uni-dimensional if it measures a single attitude. If items meeting this criterion are assumed homogeneous and refer to only one underlying construct, then a person's attitude score should reflect only the person's position on a given attitude score continuum. The extensive tests and reviews of the instrument was in part to meet the unidimensionality criterion as much as possible.

Linearity

This assumes the nature of attitude as straight lines, running from positive, through neutral, to negative feelings about the object or topic in question. This concept was put

into consideration in standardization of the scale to five categories.

Instrumentation

A self-administered mail questionnaire was used for the data collection. The questionnaire's format was particularly written to motivate respondents by using clear instructions and questions that were likely to interest them. This is similar to the total design method as recommended by Dillman (1978).

Accordingly, good quality white paper of 8 1/2" by 11" was used for the eight page questionnaire. Embossed on the cover was a sketch of a VCR, which was superimposed on the Washtenaw County map. This embellishment was to enhance the professional image as well as encourage completion. Copies of all materials used for the questionnaire are provided in appendix A.

Furthermore, the questions were formatted to create a positive impression and immediate communication of the survey's subject. Each set of questions was preceded by instructions and transitional cues between the major parts.

A five-point Likert scale was used with a set of statements describing the various aspects of the research questions. The instrument consisted of four parts as follows:

Part I of the questionnaire was aimed at eliciting a current media usage pattern in view of recent innovations in home entertainment and communication appliances.

Part II consisted of statements and questions that sought media attitudinal differences in terms of usage as a result of access to VCRs.

Part III featured a set of statements with multiple choice format, aimed at obtaining opinions about the acceptance of video-packaged programming as an option to the traditional face-to-face extension service delivery methods.

Part IV further sought motivational, and demographic information, that might have encouraged preferences for videotaped programming to the traditional extension service delivery methods. Although the overall questionnaire structure was close-ended, ample space was provided at the end for additional comments by respondents.

Pre-Test

Before the final printing of the questionnaire, the questionnaire items had a three-stage pretest by three separate populations. First, a number of persons drawn from the survey population (not part of the sample), were asked to complete the questionnaire. Second, professional social scientists and faculty members in social studies were similarly asked to complete and evaluate the questionnaire. The result of the evaluation aided the construction of the validity test of the attitude scale, using factor analysis. Finally, a group of potential users, from the Cooperative Extension Service, faculty members and students from the College of Education and the Department of Agricultural

Extension and Education, Michigan State University, reviewed the instrument to ensure representativeness of the items on the instrument as they relate to the entire domain being measured.

The final stage of the pre-test was the visit to Washtenaw County for a final review of the instrument with the County Extension Service Director and his staff. Prior to this the County Extension Service Director had reviewed the questionnaire with the county extension agents after administering the sample questionnaire to some of the farmers outside the study's sample. Also, a number of farmers in Ingham County received sample questionnaires for completion. Two reasons were behind this decision. One was to serve for comparison with those administered in Washtenaw County, the other was to broaden the test. Of the 27 questionnaires distributed in the pre-test, 25 were returned, (93% response rate).

Based on the comments and suggestions by respondents and the county staff, particularly the feedback received from the trial run of the instrument by the County Extension Service Director, a significant reduction was again made in the number of the questions. This time nine questions were eliminated to reduce the questionnaire to 43 questions. Further improvements were made to make the questionnaire more readable and easier to complete. After a through review of the instrument with the County Director and his staff, further pre-testing was deemed unnecessary.

Finally, copies of the questionnaire and a cover letter were submitted to the University Committee on Research Involving Human Subjects (UCRIHS). The questionnaire and its accompanying letters were all approved in a letter addressed to the chairperson of the dissertation committee. Copies of the questionnaire and the cover letters are shown as appendix B. Also a copy of the letter of approval from the University Committee on Research Involving Human Subjects (UCRICHS) is provided in Appendix C.

Validity

Essentially, this means ensuring that the relationship between concept and indicator is as close as intended. For an attitude instrument to be valid, the instrument must measure what it is supposed to measure rather than reflecting some other phenomenon.

Validity is extremely difficult to access. Quite often the different operational definitions have produced rather different estimates of the variable (Chadwick, Bahr, and Albrecht, 1984). In tackling the validity aspects of the instrument, a combination of the use of a panel of judges and a pre-testing procedure was adopted as presented above.

Reliability

This refers to the extent to which an attitude scale yields the same results in repeated tests. The more consistent the results of a given measurement, the higher the reliability of the measuring procedure. A combination of the use of panel of judges, the pre-test, and the use of Spearman-Brown split-half reliability measurements for parts II and III of the questionnaires ensured the reliability of the instrument. The split-half method is recommended whenever a multi-item test is administered. According to Murphy, K. R. and Davidshofer (1988), this has a number of advantages. First it avoids many of the theoretical and practical problems inherent in test-retest and alternate forms or methods. Thus allowing reliability to be estimated without administering two different tests and alternate forms methods. This also eliminates carry-over and reactivity effects.

Therefore to determine the internal consistency, split-half correlation with application of the Spearman-Brown correlation was used. With random numbers, the questions were divided into two groups and the formula applied to obtain correlations of .67 for questions in part II and .63 for questions in part III.

Finally, a post-hoc split-half correlation showed improved correlation of .74 for questions in part I and .69 for questions in part III, as shown in Table 1. These results were more than adequate. Further tests for reliability, such

as the traditional Chronbach's Alpha reliability test, were deemed redundant. Thus no further tests were made.

Table 1

Spearman-Brown Split-Half Correlation Reliability Summary

Part	Type of Questions	Pre-Test	Post-Hoc
I	Media Attitude	*	*
II	Ext. Prog. Attitude	.67	.74
III	Perceived Advantages	.63	.69
IV	Demographic Attributes	*	*

* = Not measured on Pre-test

Collecting Data

Dillman's (1978) recommendation for the total design method in survey design, distribution and collection of the questionnaires was followed and personalized as much as possible. The name, address and selected demographic information for every member of the sample was entered into a microcomputer data base file. Thus each time the person was addressed, such as in cover and follow-up letters, the name and proper salutation were individualized. This information was printed directly onto the letters and envelopes.

On each of the questionnaires was an identification number for each mailed package, without the respondent's name so as to keep track on its return. To further enhance the personalization strategy, the cover letter was signed by the Chairperson of Agricultural and Extension Education Department, the County Extension Service Director of the

Washtenaw Cooperative Extension Service and the researcher. Subsequent follow-up mailings were stamped with the County Director's name and signed by the researcher. Thus, as much as possible, the materials were packaged to facilitate each respondent's task of completing and returning the questionnaire. A cover letter introducing the questionnaire and explaining the purposes of the study, assured respondents of the confidentiality of their opinions, and their option not to participate if they should so desire. The respondents were directed to return the questionnaires to the County Extension Service Director whose address was on the stamped return envelope. The questionnaire and the cover letter along with a stamped and addressed envelope for the return of the questionnaire, were then sent to each of the respondents on the 24th of September, 1988. By the third week 89, about 35%, completed questionnaires had been returned to the County Extension Director's office and sent to the researcher in a batch by mail.

Each of the completed questionnaires was checked for proper completion and logged into the computer data file. This procedure was followed each time the returns were received from the Washtenaw office which served as the field office for the study.

Based on the report from the Washtenaw County Office and observation of the comments that accompanied the returned questionnaire, further cleaning of the sampling frame was made as a number of those included in the sample had either moved,

passed away, or were no longer in business with the Cooperative Extension Office. Fifteen questionnaires returned as undeliverable were replaced by further sampling from the established sampling frame. A summary of the questionnaire returns is provided by Table 2.

Based on the numbering on the questionnaires, the first follow-up package was sent to those whose questionnaires were not received. The package included a reminder with another questionnaire and stamped return envelope addressed to the

Table 2

A Summary of the Questionnaires Returns, Survey Population, Sample and Responses

	<u>Extension Groups</u>			
	<u>Ag.</u>	<u>Hort.</u>	<u>Total</u>	<u>%</u>
Survey population	741	164@	905	100
Sample population	186	44	230	100
Responses*:				
First mailing	60	29	89	39
Second mailing	36	5	41	18
Third mailing	8	2	10	4
Total	104	36	140	61

*Replacements included.

@Combined questionnaires for vegetables and fruits tree growers.

Note. Nonrespondents check for representativeness by questionnaires telephone interview; response: Ag.7, Hort.3.

County Extension Service Director. Two subsequent mailings were made before the cut-off time in mid-December, 1988. A total of 140 usable questionnaires were received to give a 61% response by the sample surveyed.

Processing Data

The 140 usable questionnaires were prepared for analysis on a microcomputer using the Statistical Package for Social Science, SPSS. The decision was made to use this package because of the ability of the program to operate on a portable microcomputer. This was used in constructing the code book as guide in transforming the questionnaire responses into numerical form for entry into the computer.

Analyzing Data

A trial run of the frequency count was made to check for coding and entry errors. Corrections were made where necessary. As a cross-check for accuracy, random checks were made on the data entry. To analyze the data the basic distributional characteristics were determined. Respondent frequencies and measures of central tendencies (mean, median and mode) and dispersion (variance, and standard deviation) were computed for each respondent. Further descriptive statistics were generated with the breakdown procedure which provided a crosscheck of the frequency runs already generated.

A cross-tabulation of all the questions relating to media usage paired with access to VCR was made in order to see the relationship of the questions to access to VCR. For the questions with Likert-type attitudinal scales, One-way Analysis of Variance (ANOVA) tests were used in deriving the F-ratios so as to determine differences in media usage

pattern. A level of significance with an accompanying 95% confidence level was utilized in assessing results of the survey which is reported in the next chapter.

Control for Non-respondents

To determine whether there were differences between respondents and non-respondents, a random sample of 15% of the non-respondents was drawn and a telephone interview used to obtain evaluation data using the questionnaire as interview schedule (Miller and Smith 1983: p. 45). Of the 20 names drawn, five no longer had telephones, of the remaining 15, only 10 provided usable information.

Demographic and attitudinal data obtained were statistically compared with data from the respondents. No major differences between the non-respondents and the respondents group were found. It was therefore concluded that the data were similar and could be pooled and generalized to the sample.

Summary

This chapter presented the methods and procedure used for the study. Beginning with the explanation and the rationale of the methodology used, it proceeded with the selection of the study site and explained reasons for choosing Washtenaw County, the sample selection process and the criteria for the procedure. Following that was the explanation of how the

questionnaire was developed, its pre-testing, validation and reliability procedures and the collection of data.

The data analysis was discussed, including steps taken to ensure that non-respondents were no different from the respondents.

Finally, the data analysis method used in obtaining the results was discussed and followed by a comparison of data from non-respondents with those of the respondents to ensure there were no difference between the two groups. Materials used for the instrument were provided as appendix A and those used for non-respondents were provided as appendix B.

CHAPTER IV

STUDY FINDINGS

The purpose of this study was to determine the potential of the VCR as one alternative for delivery of extension services to the Cooperative Extension Service clientele in a changing information environment. Through the examination of the current media usage, the study sought to determine if the video cassette recorder (VCR) can replace some aspects of the current instructional and educational information delivery methods. The findings are presented according to the following research categories:

- (1) General description of the respondents
- (2) Availability and usage of mass media and VCR
- (3) Clienteles' perception of VCR for Extension Service
- (4) Summary of findings.

General Description of Respondents

Demographic information obtained from the respondents included the following: gender, marital status, age range, schooling level completed, occupation and family income range. Eighty-seven percent of the respondents were male (Table 3), ninety percent of were married (Table 3). Respondent's ages

ranged from 20 to 60, with a median range of 40 - 49 years. Thirty five percent were "age 60 and above" (Table 3).

A majority of the respondents completed high school (Table 3). About seventy percent had a high school diploma and/or some college education. This indicates that most of the respondents were educated.

Sixty-four percent of the respondents were farmers, while 20% consisted of miscellaneous occupations and 17% were unknown (Table 3).

The gross income distribution pattern showed a uniform spread with the exception of the lowest-income category (6.4% of the respondents). The modal income was \$25,000; the median \$40,000; and the mean income of \$40,464. About 10.5% of the respondents made \$51,000 or more annually (Table 3). Twenty-four percent of the respondents were in the \$31,000 - \$50,000 range of income.

Table 3

Selected Demographic Characteristics (n = 140)

<u>Characteristics</u>	<u>Number</u>	<u>Percent</u>
<u>Gender</u>	<u>(n)</u>	<u>%</u>
Male	122	87.1
Female	17	12.1
Unknown	<u>1</u>	<u>00.7</u>
<u>Total</u>	<u>140</u>	<u>99.9</u>
<u>Marital Status</u>	<u>(n)</u>	<u>%</u>
Married	125	89.3
Single	9	6.4
Others	4	2.9
Unknown	<u>2</u>	<u>1.4</u>
<u>Total</u>	<u>140</u>	<u>100.0</u>

Table 3 (Continued)

<u>Age Range</u>	<u>(n)</u>	<u>%</u>
20-29	4	2.9
30-39	21	15.0
40-49	41	29.3
50-59	24	17.1
60 and Above	49	35.0
Unknown	<u>1</u>	<u>0.7</u>
Total	140	100.0

<u>Schooling Level</u>	<u>(n)</u>	<u>%</u>
8th grade or less	7	5.0
Some High School	8	5.8
High School Graduate	59	42.1
Some years in College	38	27.1
Bachelor	11	7.9
Graduate work	5	3.6
Master's and above	9	6.4
Others	2	1.4
Unknown	<u>1</u>	<u>0.7</u>
Total	140	100.0

<u>Occupation</u>	<u>(n)</u>	<u>%</u>
Farmer	86	61.4
Manager	5	3.6
Proprietor	6	4.3
Office Worker	2	1.4
Police/Postal	1	0.7
Teacher/Educator	3	2.1
Professional/Tech.	9	6.4
Other	3	2.1
Unknown	<u>25</u>	<u>17.9</u>
Total	140	99.9

<u>Family Income Range</u>	<u>(n)</u>	<u>%</u>
\$10,000 or less	9	6.4
\$11,000 - \$20,000	24	17.1
\$21,000 - \$30,000	25	17.9
\$31,000 - \$40,000	17	12.1
\$41,000 - \$50,000	16	11.4
\$51,000 - \$60,000	15	10.7
\$61,000 - \$70,000	10	7.1
\$71,000 and above	<u>24</u>	<u>17.1</u>
Total	140	99.8

a Rounded to the nearest tenth.

VCR Ownership and Mass Media Usage

Media Ownership

More than two-thirds of the respondents (68.8%) reported owning a VCR. This was 16.8% higher than the reported national penetration of 52% (TV Digest, 1988; Greenberg 1988). One or more color television sets were available in 99.5% of the households surveyed. Radio and newspapers were available to everyone. Figure 1 summarizes media ownership of the respondents.

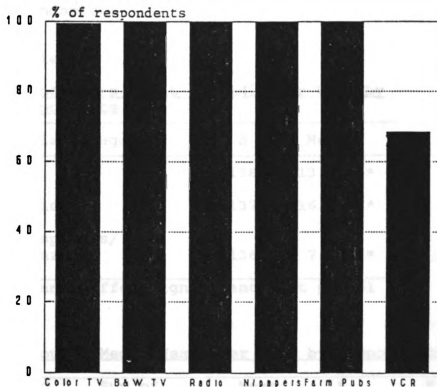


Figure 1. Media Ownership

Media Usage Pattern

The total number of hours per week spent on television, radio and newspaper/magazines by respondents are summarized in Table 4a. Radio was the most used medium, averaging 16.27 listening hours per week. Television was next with 13.7 hours per week, and newspapers/magazines placed third (7.07 hours per week).

Using ANOVA, further analysis of the means of the hours spent on each of the media (television, radio and newspapers) showed statistical relationship at $p < 0.01$ (Table 4b), indicating substantial use of television, radio and newspapers by respondents.

Table 4a

No of Hours Spent on Media per Week by Respondents

Media Category	n	Mean
TV	138	13.7045*
Radio	137	16.2727*
Newspapers/ Magazines	136	7.0714*

*Means differ significantly at $p=0.01$

Table 4b

ANOVA: Hourly Media Usage per Week by Respondents

Source of Variation	Sum of Squares	D.f.	Mean Squares	F Ratio	F Prob
Between Groups	6150.63	2	3075.32	1924.4	0.01**
Within Groups	648.80	406	1.60		
Total	13099.45	408			

** Highly significant; $p = 0.01$

Television Usage Pattern

Television usage among respondents was examined in terms of frequency of television program types viewed per week (Table 5a). News programs were the most watched (96.2%), followed by Films and Movies (76.2%). Childrens' were the least watched programs (13.1%).

Table 5a

Percentage of TV Viewership by Program Categories per Week by Respondents

Program Category	(n = 130)	% Respondents
News	125	96.2
Films/Movies	99	76.2
Sports	88	67.7
Documentaries	76	58.5
Talks	70	50.4
Drama	40	28.8
Musicals	35	26.9
Childrens'	17	13.1

A breakdown of the programs usage was computed for both those owning VCR and those who do not own VCR to determine if there were differences in program usage patterns. The results show that those with and without VCRs watched each category of program in about the same proportion. For example, 70.8% of those with VCR watched drama programs, while 63.6% of those without VCR also watched drama programs. Chi-square analysis showed no significant statistical relationship at $p = 0.05$ (Table 5b).

Table 5b

Association of TV Program Viewership with VCR Ownership

Program Category	% Viewing Programs		χ^2	P
	VCR n=96	No VCR n=44		
Dramas	70.8	63.6	0.43	.50-.75
Films/Mo	70.8	52.3	3.79	.05-.10
News	89.6	86.4	0.07	.75-.90
Sports	62.5	65.9	0.04	.75-.90
Musicals	25.0	15.9	0.97	.75-.90
L/Talks	50.0	40.9	0.67	.25-.50
Children	12.5	2.3	2.63	.10-.25
Documentaries	54.2	36.4	3.15	.05-.10

d.f. = 1; *category significant at $p < 0.05$

Radio Usage Pattern

Weekly radio programs listenership (Table 6a) was computed for the entire respondents. News programs were most frequently listened to (92.1%), Sports ranked second (61.4%), followed by Musical (50.7%).

Table 6a

Percentage of Radio Program Listenership per Week by Respondents

Program Category	(n = 140)	% Respondents
News	129	92.1
Sports	86	61.4
Musicals	71	50.7
Talks	63	45.0
Features	23	16.4
Document	19	13.6
Children	3	2.1

Analyzing of radio programs listening frequency data showed similarity in pattern with television viewership (Table 6b). News programs again, were the most listened to by both VCR owners and non VCR owners. While 92.7% of those with VCR listened to News program, about 96% of those without VCR also listened to News. Similarly, Sports program showed about the same proportion of listeners for both VCR owners and non-owners. The same trend was reported for all the programs, including children's program which was the least listened to of all the programs, with (VCR owners 12.5%; and 2.3% non-VCR owners;).

Table 6b

Association of Radio Program Listenership with Ownership of VCR

Program	% Viewing Programs		X ²	P
	VCR n = 96	No VCR n = 44		
News	92.7	95.5	0.06	0.75-.90
Drama	5.2	2.3	0.12	0.50-.75
Features	16.7	18.2	0.00	1.00
Musicals	51.0	45.5	0.17	0.50-.75
Sports	61.5	59.1	0.01	0.90-.95
Talk	44.8	22.7	5.34*	0.01-.025
Childrens'	12.5	2.3	0.04	0.75-.90
Document	13.5	15.9	0.01	0.90-.95

d.f. = 1; *category significant at $p = 0.1 < p < .025$

Further analysis was made to determine if ownership of VCR was significantly associated with program types. Chi-Square analysis of association of VCR ownership with the kinds of programs listened to showed a significant statistical relationship with Talk programs at 0.05 (Table 6). No other program showed significant relationship. While this indicates the tendency of those with VCR to listen to Talk programs, it suggests that extension video in talk format is likely to appeal to clientele.

Newspaper Usage

Newspapers usage was determined in terms of respondents' newspapers readership per week, which showed a pattern similar to that of television and radio. With the exception of the Ann Arbor News (77.1%) and Saline Reporter (20.7%), other

newspapers were read by very few of the respondents (Table 7a).

Table 7a

Weekly Percentage of Readership per Newspaper
Publication by Respondents

Paper	(n = 140)	% Respondents
Ann Arbor News	108	77.1
Saline Reporter	29	20.7
Chelsea Std.	18	12.9
Manchester Ent.	13	09.3
Free Press	12	08.6
Detroit News	12	08.6
Ypsilanti News	4	02.9

Further analysis of respondent's newspapers readership was done to determine if there were significant relations between VCR ownership and the news publications read (Table 7a). Chi-square analysis showed no significant statistical relationship at $p < 0.05$ (Table 7b).

Table 7b

Association of Newspaper Readership with Ownership of VCR

Kind of Paper	% Viewing programs		χ^2	P
	VCR n = 96	No VCR n = 44		
Arbor News	77.1	68.2	0.83	.75-.90
Chelsea	12.5	25.0	0.10	.10-.25
Saline	20.8	9.1	0.14	.10-.25
Ypsilanti	3.1	4.5	0.00	1.00
Free Pres	8.3	6.8	0.00	1.00
Detroit New	8.3	4.5	0.21	.75-.90
Manchester	9.4	4.5	0.42	.75-.90
Other	29.2	25.0	- -	----

d.f. = 1; *Program category significant at $p = 0.05$

Mass Media Usage and Personal Characteristics

Since the media frequency data showed no significant differences in usage by those with VCRs and without, the data were analyzed in order to determine if respondent's personal characteristics were significantly associated with media usage habits.

Age

VCR ownership appeared to appeal most to those in the 40-49 age category (Table 8). Ownership of VCR was highest with the 40 - 49 age category (87.80%), followed by the 20 - 29 age category and lowest for 60 years and above age category (53.06%). Overall, ownership was more among the 20 - 29 years and 50 - 59 years age categories. Age appears to be weakly related to VCR adoption ($r = 0.32$, $p < .05$; Table 8).

Table 8

VCR Ownership Grouped by Age Categories

Age Range	(n)	% Respondents with VCRs
Under 20 Years	0	0.00
20 - 29 Years	4	100.00
30 - 39 Years	21	66.67
40 - 49 Years	41	87.80
50 - 59 Years	24	66.67
60 and Above Years	49	53.06

Total Cases = 140 Missing Cases = 1
 Regression analysis: $a = 39.53$; $b = 0.53$; $b = 0.58$;
 $r = 0.32$; $t = 0.6812$; Significance level = $p < 0.05$

Education

Education appears to be strongly associated with VCR ownership (Table 9). VCR ownership rose sharply from 37.50% for respondents with less than 8th grade level of education to 71.19% for those with some years of high school. The increase continued to 80% for those with bachelor' degree and thereafter declined sharply to 33.33% for those with masters' degree. This decline is inconsistent with the findings of Rogers (1984), who stated that innovativeness is related to the level of education and those with more years of education being earlier in adopting innovations.

Table 9

Ownership of VCR Grouped by Educational Level.

Educational Levels	(n)	% of Respondents with VCRs
8th Grade or Less	8	37.50
High School but not Graduate	59	71.19
High School Graduate	38	78.95
Some Years of College or Tech. School	11	81.82
Bachelors' Degree	5	80.00
Masters' Degree	9	33.33
Others	2	50.00

Total Cases = 140

Missing Cases = 1

Regression analysis: a = 62.0; b = 0.43; r = 0.04; t = 0.074

Significant level $p < 0.05$

Occupation

A majority of the respondents were farmers (86%, Table 10). Sixty-six percent of them owned VCR. The professional /technical group consisted of only 19 respondents and 31.53%

owned VCR. The rest were miscellaneous occupational categories.

Table 10

Ownership of VCR Grouped by Occupation.

Occupation Categories	(n)	% of Respondents with VCRs
Farmer	86	66.28
Manager	5	100.00
Proprietor	6	83.33
Office Worker	2	100.00
Police, Postal, & Fire	1	0.00
Teacher/Educator	3	0.00
Professional/Technical	19	31.53
Other	13	50.64
Total Cases = 140		Missing Cases = 5

Income

Income has the most striking relationship with ownership of VCR. With a regression analysis, percentage gross-income category was almost homogeneously distributed among income categories $r = 0.75$, $p < 0.05$; Table 11). There was an incremental positive disposition to VCR ownership with higher income, from income group level of \$10,000 to \$30,000. The \$50,001 - \$60,000 income group was the most positively disposed to ownership of VCR with 93.33% of them owning VCR. The \$10,000 - \$20,000 category was least positively disposed to VCR ownership with 45.83% (Table 11).

The significant relationship between income and VCR ownership was expected because VCRs are relatively expensive and require substantial amount of investment to obtain one. The result is also consistent with Rogers reports (1983, 1984)

stating that innovativeness in new technology is often related to level of income. This is true for VCR as the more affluent have shown to be more innovative. Although about half of those with income \$10,000 or less have VCRs, Rogers (1983) described those in such category as innovators.

Table 11

Ownership of VCR Grouped by Income

Income Categories	(n)	% of Respondents with VCRs
\$10,000 or Less	9	55.56
\$10,001 - \$20,000	24	45.83
\$20,001 - \$30,000	25	72.00
\$30,001 - \$40,000	17	58.82
\$40,001 - \$50,000	16	87.50
\$50,001 - \$60,000	15	93.33
\$60,001 - \$70,000	10	90.00
\$70,001 and Above	14	78.57
Total Cases = 140 Missing Cases = 10 Regression analysis: $a = 50.98$; $b = 0.54$; $r = 0.75$ $t = 2.8160$. Significant at $p < 0.05$		

Comparison of Demographics of Those With/Without VCR

To further determine if there were any differences between those who did and did not own VCRs, comparison of age, occupation, education and income demographics were made among respondent groups.

VCR ownership was lowest 63% for respondents 50 years or more in age and higher for other age categories (Table 12). Proportions of those with and without VCRs were about the same

for the remaining age categories, although more of those in the 30 to 49 age category owned VCRs (Table 12). Age appears to be a factor in owning a VCR.

Education was about equal in the two groups (Table 12). About 69% of those with VCR had high school diploma or some college education, while 63% of those without VCR had the same level of education. About 18% of those with bachelor degrees or more owned VCR, while 22.7% did not. Frequency of VCR ownership was similar for those with some years of high school or below; 10% had VCR and 11.4% did not (Table 12).

The same association is evident for occupation categories (Table 12). The majority of both groups were farmers, and over 70% of them owned VCR. The rest consisted of miscellaneous occupations.

Some differences were noted in the income earnings levels of the those owning VCR and those who did not (Table 12). In the four major income categories, about 60% of the respondents owned VCRs. About 60% of the respondents in the first two income categories owned VCRs, while over 80% of those in the higher income categories owned VCRs. Regression analysis (Table 11) shows that income appears to be a strong factor in determining ownership of VCR.

Table 12.

Comparing Selected Demographic Characteristics of VCR Owners and Non-owners

Age	Respondents		Own VCR	
	(a) n	%	(b) n	* %
29 Years or less.	4	2.9	3	75.0
30-49 Years	62	44.6	46	74.2
50 and Above	73	52.3	46	63.0
Total	<u>139</u>	<u>99.8</u>	<u>95</u>	68.4
Unknown	1	-	-	0.7

*Percentage = $b/a \times 100$

Education	Respondents		Own VCR	
	(a) n	%	(b) n	%
Some Years of H/Sch. or less	15	10.8	14	93.3
High Sch. and some Col. Yrs.	97	69.5	69	71.1
Bachelor and Above	25	18.0	10	40.0
Other	2	1.4	2	100.0
Total	<u>139</u>	<u>99.7</u>	<u>95.0</u>	68.4
Unknown	1	0.7	-	--

Occupation	Respondents		Own VCR	
	(a) n	%	(b) n	%
Farmer	86	74.8	62	72.1
Other	29	25.2	12	41.4
Total	<u>115</u>	<u>100.0</u>	<u>74</u>	64.4
Unknown	25	2.5	--	--

Table 12 (cont'd.)

Income	Respondents	%	Own VCR	%
	(a) n		(b) n	
\$10,000 -				
\$20,000	33	23.6	19	57.6
\$21,000-				
\$40,000	42	30.0	24	57.1
\$41,000-				
\$60,000	31	22.1	25	80.6
\$61,000				
and Above	34	24.3	28	82.4
Total	<u>140</u>	<u>100.0</u>	<u>96</u>	<u>68.5</u>

Respondents' Perception of VCR in Extension Service

One of the mission statements of the Extension Service is to help people help themselves. To do that, the Extension Service has always used various delivery methods to get its services to people.

Utilizing VCR for Extension Services

To measure respondents' level of satisfaction by the current Extension Service delivery methods, respondents were asked to rate their most important sources of agricultural information. On a Likert five-point scale ranging from very superior to not useful, 53.4% of the respondents indicated farm publications as superior or very superior, 27.2% indicated radio to be superior or very superior, 9.6% indicated same qualities for newspapers, 2.9% indicated TV, and 5% indicated other sources. Figure 2 summarizes sources rating.

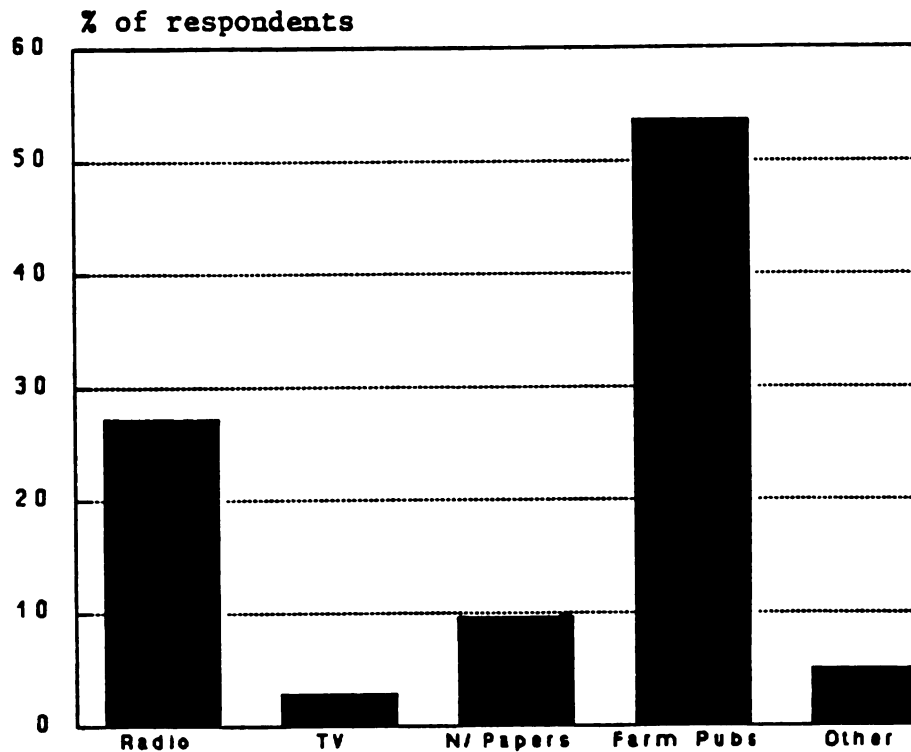


Figure 2. Very Superior/Superior Sources of Agricultural Information

To determine how often the respondents availed themselves of the services of the Extension Service office, they were asked to indicate the number of times they visited the office, called the office, and attended demonstrations and workshops. Their answers showed that majority (53%) visited only about 1 - 5 times a year (Table 13). While 73% called for assistance, 70% attended shows and workshops from 1-5 times per year.

Table 13

Frequency of Use of Cooperative Extension Services
Assistance by Respondents (n = 140)

Frequency of Visits	Visit Ext. for Asst.	Call Ext. for Asst.	Attend W/shops and Seminars
Never	38.6	21.4	22.3
1 - 5 Times	53.0	73.4	70.0
5 and Above	9.1	5.0	8.2
Total	100.7	99.8	100.5*

*Percentages do or do not total 100 due to rounding.

However on further analyses of the frequency data with ANOVA, those who said they called or visited the Extension Service office appeared to use VCRs more frequently. As indicated by Tables 13 and 14, ANOVA showed strong relationships between frequent Extension Services office visits and ownership of VCR. Extension Service office calls frequency was found to be highly related to ownership of VCR and differences were found between those with owning VCRs and those who did not ($p < 0.00$).

In contrast the frequency of visits to Extension Service tours/shows and demonstrations was not significantly associated with ownership of VCR, even though direct group educational delivery services were possible. Table 16. summarizes the ANOVA analyses.

Table 14

ANOVA: Analysis of Variance for Frequency of Office Visits
by Ownership of VCR

Source	Sum of Squares	D.F.	Mean Squares	F Ratio	F Prob.
Bet Grps	3.1414	1	3.1414	14.3204	.0002*
Within Grps	0.05293	137	.2194		

*Significant at $P < 0.05$.

Table 15

ANOVA: Analysis of Variance for Frequency of Extension
Assistance Calls by Ownership of VCR

Source	Sum of Squares	D.F.	Mean Squares	F Ratio	F Prob.
Bet Grps	1.8153	1	1.8153	4.7935	.0303*
Within Grps	51.8825	137	.3787		

*Significant at $P < 0.05$.

Table 16

ANOVA: Analysis of Variance for Frequency of Tours, Shows
and Demos by Ownership of VCR

Source	Sum of Squares	D.F.	Mean Squares	F Ratio	F Prob.
Bet Grps	.0296	1	.0296	.0869	.7686
Within Grps	46.3544	136	.3408		

*Significant at $P < 0.05$.

Thirty-six percent of respondents indicated that they use VCRs very often or often; 31.1% stated they use VCRs occasionally; 12.9%, said they have never used VCRs, and 19.7%, said VCR was " VCR was not applicable". The general

appearance is that of a progressive, evolving adoption as people come to understand the qualities and the advantages of the technology. Figure 3 summarizes VCR usage frequency.

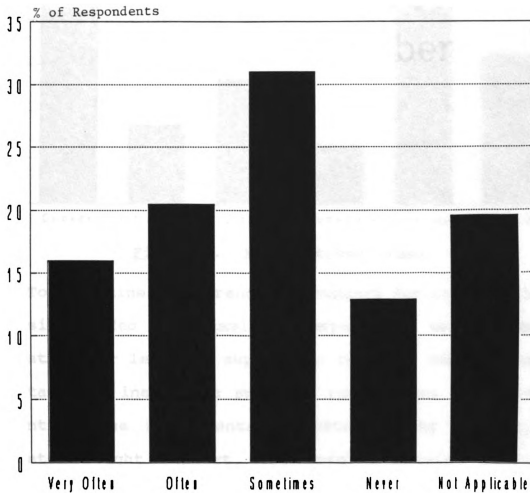


Figure 3. Video Usage Frequency

Asked about the kinds of programs watched on VCR, 32% of the respondents indicated Comedy was the most watched, 21%

indicated Adventure, (Figure 4). Less watched were Instructional programs (8.6%), and Documentaries (6.4%).

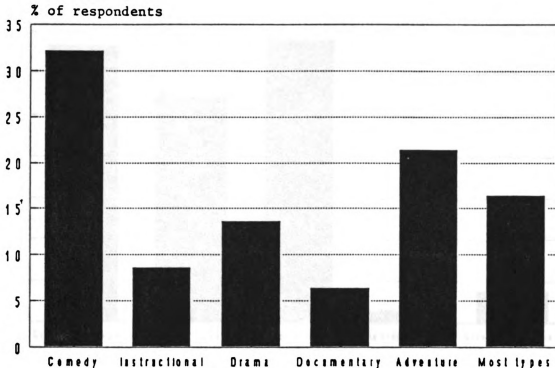


Figure 4. Most Watched Video

To determine the strength of support for introduction of extension video programming, respondents were asked to indicate their level of support in terms of cooperation and assistance in insuring a smoothly run program. Thirty-three percent of the respondents indicated strong support, 27% indicated slight support, 31% were uncertain, 1.5% were slightly opposed and 4.8% were strongly opposed.

When asked if they would be willing to provide financial support, such as paying a modest fee for the tapes, about 53% indicated definite willingness and willingness to pay. Thirty percent were unsure of their willingness to pay, and 16.9%

were unwilling to pay. Figures 5 and 6 summarizes these responses.

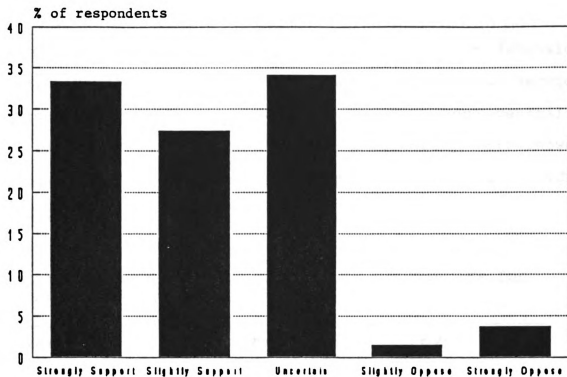


Figure 5. Support for Extension Video

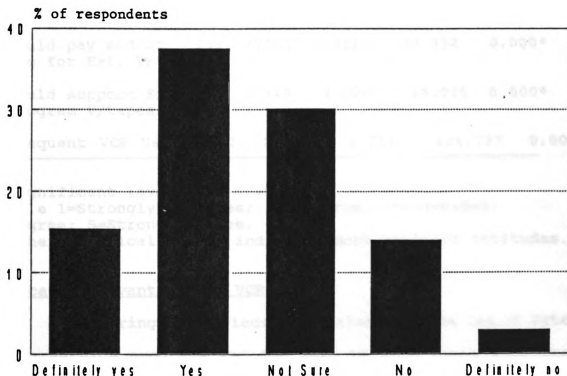


Figure 6. Willingness to Pay Tape Fee

Further analysis, using One-way Analysis of Variance was made to determine the significance of the support and willingness to use Extension video programming should it be introduced. Frequent use of VCR, preference for Extension Service tapes with live events, support of Extension Service video program and willingness to pay fees were generally indicative of acceptance of video programming, and showed statistically significant association with access to VCRs (Table 17).

Table 17

Summary Table of Analysis of Variance for Supports for
Extension Video Program by Ownership of VCR

Variables	N	Mean	Std. Dev.	F Prob. Level	Lev. of Signif.
Pref. for Ext. V/Tapes and live events when Poss.	134	2.985	1.541	32.574	0.000*
Would pay modest fee for Ext. V/tape	136	2.515	1.011	30.032	0.000*
Would support Ext. Program V/tapes.	135	2.148	1.026	15.025	0.000*
Frequent VCR Use	132	2.912	1.211	124.727	0.000*

*Significant level at $P < .05$.

Scale 1=Strongly Disagree; 2=Disagree; 3=Undecided;

4=Agree; 5=Strongly Agree.

Higher Numerical scores indicates more positive attitudes.

Perceived Advantages of VCR

Considering the various indications for the use of Extension Service programs and the need to have tapes supplement

the already available services, respondents were asked to rate some of the major reasons for desiring Extension Service video programming.

Based on five-point Likert scale from 1 = strongly disagree to 5 strongly agree, with 3 indicating neutral, the following points were obtained and ranked according to the mean index presented in Table 18.

Table 18

Summary of Perceived Advantages of Videotapes

<u>Rank</u>	<u>Advantages</u>	<u>Mean</u>	<u>S.D.</u>
1	With videotape programming, one can learn new skills without leaving the farm.	4.031	0.871
2	Availability of programs on V/tapes is an access to expert information without the inconvenience of traveling to the ext. office.	3.985	0.835
3	Availability of V/tapes for learning certain skills in the privacy of one's home would be more convenient than going to area tours and demonstrations.	3.969	0.940
4	Viewing V/tapes in groups provides chances for farmers to meet and discuss hard-to-solve problems and share experiences with one another.	3.954	0.796
5	Use of VCR's should enable the CES to provide more skills and information via V/Tapes and rely less on other methods.	3.772	0.901
6	Extension v/tapes would reduce time and inconvenience spent in meeting subject matter specialists or visits to area farms for demonstrations.	3.519	1.016

Table 18 (cont'd.)

7	V/tapes would reduce time and money spent going to or contacting the Extension Service Office.	3.225	1.033
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Item 1 scored highest ($x = 4.031$) indicating strong/strongly agree, while item 7 with the lowest mean score ($x = 3.225$) indicated neutral/agree. The rest of the items indicated agree or strongly agree. Since the rating was a measure of individual perceptions of videotapes, it provided a measure of the utility of video programming to the respondents. The overall indication is that the scores symbolized individual and group expression of the goal-directed nature of communication behavior. It further indicated that the respondents were active communication participants who select certain media or media content, Katz (1974). These types of expressive behaviors were reported as reasons why people use or what gratifications they sought from certain media contents in explaining the "uses and gratifications theory" of media uses and effects (Levy and Windahl, 1984; 1985). Since media use expectations are produced from individual predispositions, such indications might provide opportunities for segmented marketing to the Extension Service clientele.

Further analyses were made to determine if the perceived advantages of video programming were significantly related to VCR ownership. As summarized in Tables 19 - 22, four of the

seven perceived advantages (#'s 1,2,3 and 4) were statistically significant at $p = 0.05$.

Table 19

ANOVA: Analysis of Variance: Respondents' Perception of Video Program as Enabling Learning Skills on Farm by Ownership of VCR

	Sum of Sqrs.	DF	Mean Sq.	F Ratio	F Prob.
Bet Grps	4.797	1	4.797	6.597	0.011*
Within Grps	93.877	129	0.727		

*Significant level $P < 0.05$

Table 20

ANOVA: Analysis of Variance: Respondents' Perception of Video Program as a More Convenient Access to Information than Tours/Demonstrations.

	Sum of Sqrs	DF	Mean Sq.	F Ratio	F Prob.
Bet Grps	8.707	1	8.797	10.597	0.001*
Between Grps	105.170	128	0.822		

*Significant level $P < 0.05$

Table 21

ANOVA: Analysis of variance : Respondents' Perception of Video Program as Reducing Time and Cost Visiting Subject-Matter Specialists by Ownership of VCR

	Sum of Sqrs.	DF	Mean Sqr.	F Ratio	F Prob.
Bet Grps	12.454	1	12.454	13.208	0.000*
Within Grps	119.747	127	0.943		

*Significant level $P < 0.05$

Table 22

ANOVA: Analysis of Variance; Respondents' Perception of Video Program as Saving Time and Money Visiting Extension Office by Ownership of VCR

	Sum of Sqs.	DF	Mean Sq.	F Ratio	F Prob.
Bet Grps.	9.873	1	9.873	9.404	0.002*
Within Grps.	126.608	127	0.997		

*Significant level $P < 0.05$

Summary of Findings

With 68.8% of the respondents owning VCR, a much higher percentage than the national penetration figure of 52% (Greenberg, 1988; and TV Digest 1988), the respondents of this study could be categorized as early adopters of VCR. Most respondents had access to television, radio and newspapers. Radio was the most utilized medium (16 hours per week), followed by radio and newspapers with 14 and 7 hours per week, respectively. The general outlook of respondents media usage is a substantial use of the mass media as indicated by the number of hours spent per week by on television, radio and newspaper with a statistical significance of $p = 0.01$ (Table 4a).

Respondents owning VCR indicated that they made frequent use of them, particularly for entertainment. They also indicated intention to use it more for instructional and other instrumental purposes with time. Considerable support for extension video program was expressed in terms of payments and willingness to cooperate with the Cooperative Extension Service should video programming be established.

Buttressing the above are the various indications from the ANOVA (Tables 14 - 17) which show ranges of significant relationships between ownership of VCR and the following variables: 1) the frequency of visits to the Extension Service office (ANOVA, $F = 14.3204$, d.f. = 1, $p < 0.00$); 2) frequency of calls to the Extension Service office for assistance (ANOVA, $F = 4.7935$, d.f. = 1, $p < 0.03$); 3) preference for combination of Extension Service videotapes with live events whenever possible (ANOVA, $F = 32.574$, d.f. = 1, $p < 0.00$); 4) willingness to pay a modest fee for tapes (ANOVA, $F = 30.032$, d.f. = 1, $p < 0.00$); and 5) readiness to support Extension Service videotape (ANOVA, $F = 15.025$, d.f. = 1, $p < 0.00$) programs.

Respondents also rated their perception of advantages of an envisaged Extension Service video program. Four of six possible advantages were found to be statistically significant with ownership of VCR. Privacy, convenience and the opportunity for self enhancement were among the key advantages reported (Table 18).

Answers to the Research Questions

One hundred and forty (61%) of the questionnaires were returned, and analyzed using: (1) frequencies and measures of central tendency and dispersion; (2) cross-tabulations, and, (3) one-way analysis of variance (ANOVA).

Question 1 sought to determine if ownership of VCR had affected the general media usage by Extension Service clientele. The findings indicated that despite the acquisition

of VCR by 68.8% of the respondents, media usage was quite similar to those without VCRs (Tables 5b, 6b and 7b). Most respondent's media interests appeared similar for television, radio and newspapers usage. For example, interest in News and Sports programs on television and radio were about the same for both VCR owners and non-owners. However, there were indications that certain media programs such as radio Talk programs, which showed a significant relationship with access to VCR have stronger appeal than the others ($\chi^2 = 5.34$, d.f. = 2, $p < 0.1$ $< p < .025$; Table 6b). Respondents' ownership of VCRs differed among age-groups (Table 9). The majority of those owning VCR belonged to the middle-age categories in 30-39 to 50-59 years of age. Income was significantly related to ownership of VCR. Ownership of VCR increased proportionately from the low to the high income categories and was higher with increasing income range from \$40,001 and above ($r = 0.75$, $p < 0.05$, Table 11). However, despite the acquisition of VCR, media usage patterns remained generally the same for both those with, and those without VCR (Tables #s. 5b, 6b, and 7b). The second research question sought to determine the willingness of clientele to support Extension Service videotapes programming, if provided. Respondents appeared to be very willing to support the program by fees and supportive activities to ensure the success of the program. ANOVA analyses of the support and willingness to pay fees for Extension Service videotapes program were significantly related to access to VCR at ($p = 0.05$, Table 17).

The third research question asked if there were perceived advantages for adopting videotapes program over the traditional delivery methods. Data from the study did indicate support for a number of perceived advantages (Table 18). Highest rated was the advantage that videotape programming enables learning of new skills without leaving the farm (mean = 4.031) on a five-point Likert scale (Table 18). This is conceptually the same as stating that VCR provides opportunity for self-directed learning in the privacy of one's farm.

Also reported were the perceived advantages of convenient access to skills and utilization of Extension Service information; the use of videotapes programs to save time and money by reducing travel to Extension Service office and tours. Analysis of variance showed four of the perceived advantages significantly related to VCR ownership: 1) perception of video programs as enabling learning skills on farm ($p < 0.01$, Table 19); 2) perception of video programs as convenient access to information than tours/demonstrations ($p < 0.00$), Table 20); 3) perception of video programs as reducing cost and time with subject-matter specialists ($p < 0.00$, Table 21); 4) perception of video programs as reducing time and cost visiting Extension Office ($p < 0.00$, Tables 22).

CHAPTER V

CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

Introduction

The primary concern of this study was the changing information environment and its potential impact on the delivery of Extension Services in Michigan, in order to determining if video cassette recorders (VCR) could replace some aspects of current instructional and educational information delivery methods. This chapter presents the conclusions, recommendations and implications concerning the adoption of the VCR medium by organizations which provide agricultural extension services.

Conclusions

The following conclusions were drawn from the analyses of the data presented above and a literature review:

- 1) Despite the high level of VCR adoption by the clientele, there has been no substantial significant relationship in ownership of VCR and media usage patterns as yet. However, data showed that VCR owners spend significant number of hours

watching television, listening to radio and reading newspapers.

The acquisition of a VCR appears to reflect the importance attached to the various uses, particularly by those with higher income, and perhaps who desire more control of the information they use (Table 11; uses and gratification, Blumler et al. (1978)).

2) Respondent's ownership of VCRs differed among age-groups. While more of those without VCRs belonged to the older age-group (60 years and above), the majority of those owning VCRs ranged in age from 30 to 50 years. Age was a decisive factor in VCR purchases and the probability of consideration and acquisition of VCRs were greater among the younger age-groups provided available funds.

3) Income was shown to be significant in VCR ownership. While a majority of those without VCRs had annual incomes of less than \$40,000 per year, the majority of those with VCRs had substantially greater incomes. The likelihood that an individual would acquire a VCR was somewhat related to income.

4) Since 68.8% of the respondents owned VCRs, it is evident the Extension Service now reaches many high-income individuals. Since the Extension Service reaches many in the higher income group, it may contribute to the existing

information gap between rich and poor clientele documented by Tichenor, Olien and Donohue, 1971; (the knowledge Gap Hypothesis).

5) VCR ownership data support the Uses and Gratification theory: that an individual's communicative behavior is determined or shaped by his or her information needs. In this case, the ability to record or obtain taped extension programs for use at convenient times, may satisfy the needs of those desirous of controlling information access and scheduling.

6) Adoption of video programming may be an important advantage to the Extension Service if and when costs eventually are reduced. When videos become an integral part of extension programming and delivery system, funds could be conserved as specialists and agents travel less but reach more people. In this way the Extension Service might mitigate the impact of the lag between budget and increasing responsibilities.

7) Although cost was not examined by this study, respondents' willingness to pay for video programming, (depending on cost) could enable the Extension Service to meet part of the cost of video production by charging nominal fees for individual users and proprietary fees for organizations.

Recommendations

The conclusions of this study provide a basis for the following recommendations concerning VCR use in the Extension Service program delivery:

1) Video programming should be made a basic component of the Cooperative Extension's delivery service to provide a wider range of educational and information services to larger categories of clientele taking into considerations their needs and location from Extension Service offices. Since meeting the various kinds and scopes of programming that will be demanded by a heterogenous clientele could be very challenging, coordination of video production program with other Extension Service organizations through the recently established National Extension Video Network (EVN) could significantly reduce production costs. Also, large scale production of video programs (conclusion 4, above,) would enable Subject-matter Specialists to devote more time to specific clientele problems. Similarly, funds saved by reducing Subject-matter Specialist and Extension Agent travel could be used in further improving the quality of service being provided.

2) Since the Cooperative Extension Service already reaches higher income clientele, adoption of video programming service may provide the opportunity to reach the low income groups by providing viewing centers for such groups. Such

centers could enable the information disadvantaged to frog-leap the existing information inequities if they perceive the need to avail themselves of the video programming services.

3) Adopting video programming may also require that new marketing approaches such as in-service training programs be developed to enhance the adoption of the additional delivery method by the Extension Agents and Subject-matter Specialists. Similar promotional approaches will be needed in some pilot counties to sensitize and inform clientele of the Extension Service's intent to increase modes of programming delivery.

4) Since other organizations are involved in extension services, consolidated efforts at video production would keep cost down without compromising quality. Extension Service should therefore provide leadership in the establishment of inter-agency video production by exploring the cooperative efforts which might be developed with other government agencies and organizations as well as with the private sector.

Implications

Traditional business practices will be challenged as better educated, more prosperous individuals come to comprise more of the Extension Service clientele. With this development, comes the need to accelerate, enhance and diversify services. Already, 80% of Extension Services have begun production of their own instructional/information

videotapes. According to a recent study by Fedale (1988), 85% of states have a videotape library. Sixty-five percent operate videotape loan services at county offices. Such services are already provided by Michigan State University at the Resource Center of the Agricultural and Extension Education Department in support of the Cooperative Extension Service.

From the foregoing recommendations follow a number of major implications:

- 1) With a more active audience willing to pay for superior quality educational programs, the Extension Service will have the additional task of raising production and distribution funds despite clienteles' willingness to absorb some of the costs.
- 2) This study and that of Levy (1980) indicate that VCR use provides evidence of significant preference differences among media consumers who are more active and value direct enquiry. As Rubin and Bantz (1987) noted, VCR users are more motivated and intentional in their selection of tapes, renting and viewing. Their study provided evidence that clientele with VCRs are more active in their media use; they took time to record information for later viewing and were willing to support extension video programming.
- 3) Similarly, the strong significant relationships between access to VCR and the willingness to pay for extension video ($p < 0.05$), support its video programs ($p < 0.05$), frequent use of VCRs ($p < 0.05$) and the preference of extension video

to some live events reflect changing patterns of media usage (Table 19). Thus, adopting new appropriate technology such as the VCR is very important if the Cooperative Extension Service is to keep pace with ever changing life styles. To keep abreast with its clientele, the Extension Service will need to reassess its program delivery methods and adjust VCR technology potentials to its advantage. Adaptation will require new skills and aptitudes, and an appreciable adjustment in operational strategies. Thus, the Cooperative Extension Service will need to develop programs to train staff in effective utilization of the technological benefits.

4) The significant correlation of age and income with ownership of VCRs ($p = 0.05$; Tables 8 and 11 respectively), indicate that different clientele groups use VCRs for different contents and purposes, and will require Extension Service provision of packaged programs meeting specific group needs. This suggests that for the Cooperative Extension Service to remain effective in providing research-based educational information to various audiences in a changing information environment, it may need to develop new approaches based on the new program delivery technology. Respondents very clearly indicated that they considered the greatest advantage of acquiring VCRs to be, "learning of new skills within the privacy of one's farm, ." the Extension Service is obliged to assist them reach their potentials, in this case, satisfying self enhancement needs - the opportunity to set their own

learning preferences, priorities and topical scopes. Within the context of the Uses and Gratification theory, the respondents indicated that they have certain needs, and by the acquisition of VCRs, have demonstrated the technology's ability to satisfy those needs.

Observations

One impact of traditional information technologies has been the creation of an information gap between information-rich and the information poor populations (Tichenor, et al 1971). As new information technologies focus on the traditional communication channels, they widen the gap between the rich and the poor because most new information is acquired by those who can afford access to technology.

This gap might not develop among the Extension Service's clientele population because of their current rate of VCR adoption. However, expecting adoption of the VCR by all may be unrealistic. Thus, those able to acquire VCRs will have some advantages in procuring, processing, and utilizing information and educational programs.

As the study has shown, while the Extension Service delivery of information to its audience has concentrated mainly on the two traditional systems of written communication, the audience has sought, and continues to obtain its information needs through all available media. In

other words, information users will always seek out alternatives to satisfy their needs. This suggests that consumers of agricultural information may be willing to pay additional costs to obtain instructional, educational, or recreational information.

Clientele satisfy their information needs mostly through the mass media, while most information delivered to them by the Extension Service is through publications. With the VCR complementing other media services, it becomes expedient for the Extension to develop an integrated delivery system. Conversely, the Cooperative Extension Service might consider reviewing personnel policies in order to create opportunities for new skills and competencies necessary to apply the new technology and the production of educational and information materials.

APPENDICES

APPENDIX A

APPENDIX A

Questionnaire and Survey Materials

Agricultural & Extension Education



Michigan State University
410 Agriculture Hall
East Lansing, Michigan 48824 - 1039
(517) 355 - 6580

September 12, 1988

Name of Respondent
Address

Dear (Name of Respondent),

We in the Cooperative Extension Service at Michigan State University seek to improve our services to you and others throughout Michigan. One of our ways to make that improvement depends on periodically receiving information from clientele like you. Presently, we are examining the potentials of the video cassette recorder (VCR) in Extension. The enclosed questionnaire has been carefully designed to provide valuable information about potential changes in media usage and your perceptions of the VCR as an extension delivery tool.

Your name was selected at random from the Washtenaw County Cooperative Extension Service agricultural mailing list on the assumption that you are the head of your household. Because you are one of a selected sample, your response is very important to us. Please try to answer all the questions. Additional comments can be made on the margins or on the back of the questionnaire.

You may be assured of complete confidentiality. The questionnaire has an identification number for statistical purposes only. Your name will not be placed on the questionnaire. Completion of the questionnaire is voluntary with no penalty for refusing to participate.

We estimate it will take 20 minutes to complete the questionnaire. Feel free to phone us (at 313-971-0079), if you have questions.

Thank you for your valued opinion. Please return on or before September 24, 1988, in the stamped, self-addressed envelope.

Sincerely,

Morse L. Brown
County Extension Director
Washtenaw County

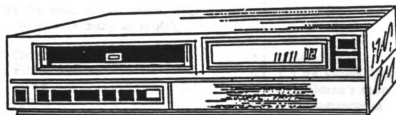
Dr. Carroll H. Wamhoff
Chairperson, Dept of AEE
Michigan State University

Pat Anyanetu, Research Assistant
Dept. of Agr'l & Ext Educ.
Michigan State University

P.S.: If you will be interested in reviewing the result of this study, please contact the County Cooperative Extension Office after November 30, 1988.

MSU is an Affirmative Action/Equal Opportunity Institution

**Modern Communication Technology in Extension
Video Cassette Recorder (VCR), As An Option For Extension
Delivery Service:**



**A County-wide Survey Of
Washetenaw Cooperative Extension Service**

Department of Agricultural Extension Education

Michigan State University

410 Agriculture Hall

East Lansing, MI 48823

Part I Directions:

Please answer the following questions by putting a check ☒ in the appropriate space, additional responses can be written in the margin.

1. Do you have a working TV set in your home?

1 ☐ Yes. If yes, go to 1a. 2 ☐ No. If no, go to 2.

1a Black & White TV, how many? ____

1b Color TV, how many? ____

1c As the head of household, what do you watch on TV?
(check as many as apply).

1 ☐ Drama Serials

5 ☐ Musicals

2 ☐ Films/Movies

6 ☐ Life Shows/Talk Shows

3 ☐ News

7 ☐ Children's show

4 ☐ Sports

8 ☐ Documentaries

2. Do you have a working radio set?

1 ☐ Yes. If yes, go to 2a. 2 ☐ No. If no, go to 3.

2a If yes, how many? ____

2b What do you listen to? (Check as many as apply)

1 ☐ News

5 ☐ Sports

2 ☐ Drama series

6 ☐ Talk Shows(e.g.how tos)

3 ☐ Features series

7 ☐ Children's show

4 ☐ Musicals

8 ☐ Documentaries

3. Do you have access to a working Video Cassette Recorder (VCR) in your home?

1 ☐ Yes. If yes, go to 4. 2 ☐ No. If no, go to 5.

4a. How do you use your VCR?

1 ☐ Watch pre-recorded tapes

2 ☐ Record TV shows/movies to view later

3 ☐ Record local events

4 ☐ Record most shows for viewing with friends

5 ☐ others _____ (List them, please).

- 4b. If you use VCR to watch prerecorded tapes, where do you get your videotapes from? (check as many as apply)

1 [] Tape off the air
 2 [] Buy from video store
 3 [] Rent
 4 [] Borrow from friend
 5 [] Borrow from the library
 6 [] Other. _____ (List them please)

- 4c. What kinds of videotapes do you watch most? (check only one)

1 [] Soap Opera	4 [] Instructional
2 [] Classics	5 [] Drama
3 [] Comedy	6 [] Documentary
7 [] Adventure	8 [] Most kinds

5. Which newspapers are home delivered? (weekly and daily) (Write names).

6. Which special agricultural publications do you receive or buy in a month? _____None. If some, please list:

7. What other magazines are home delivered each month?

8. Do you have a telephone?

1 [] Yes.

2 [] No. If no, go to 10.

9. How important is the telephone to you in obtaining agricultural information?

1 [] very important
 2 [] fairly important
 3 [] important

4 [] slightly important
 5 [] no importance

10. In any given week, how much time, on the average, do you spend using different kinds of media?

- 1 How much time do you watch TV each week? ____hours
- 2 How much time do you listen to the radio? ____hours
- 3 How much time do you spend reading newspapers (including farm journals & bulletins)? ____hours
- 4 How many hours of extension business calls do you make in a week? ____hours
- 5 How many personal business letters do you write in a month?

Part II Directions:

Using the following categories, check one response to each statement that best-matches your opinion.

11. How often during the year, do you visit the Cooperative Extension Service for assistance?

- | | |
|------------------|---------------------|
| 1 [] none | 4 [] 11-15 times |
| 2 [] 1-5 times | 5 [] over 16 times |
| 3 [] 6-10 times | |

12. How many times during the year do you call the Cooperative Extension Service for assistance?

- | | |
|------------------|---------------------|
| 1 [] none | 3 [] 11-20 times |
| 2 [] 1-10 times | 4 [] over 20 times |

13. How would you rate the services received from the Cooperative Extension compared to that of commercial agricultural services?

- | | |
|------------------------|---------------------------|
| 1 [] very superior | 4 [] usually inferior |
| 2 [] usually superior | 5 [] definitely inferior |
| 3 [] about the same | |

14. From which mass media do you obtain most information to meet your agricultural extension needs? (please check only one)

- | | |
|------------------|------------------------------|
| 1 [] radio | 4 [] farm publication |
| 2 [] television | 5 [] others, please specify |
| 3 [] newspaper | |

15. How would you rate the agricultural information you receive from radio compared with those from other media sources?

- | | |
|---------------------|---------------------|
| 1 [] very superior | 4 [] average |
| 2 [] superior | 5 [] below average |
| 3 [] above average | |

16. How would you rate the agricultural information obtained from television compared with those from other media?
- | | |
|---------------------|---------------------|
| 1 [] very superior | 4 [] average |
| 2 [] superior | 5 [] below average |
| 3 [] above average | |
17. How would you rate the agricultural information obtained from newspapers compared with those from other media?
- | | |
|----------------------|------------------|
| 1 [] very useful | 4 [] average |
| 2 [] not too useful | 5 [] not useful |
| 3 [] useful | |
18. How would you rate the agricultural information obtained from farm publications compared with those from other publications?
- | | |
|----------------------|------------------|
| 1 [] very useful | 4 [] average |
| 2 [] not too useful | 5 [] not useful |
| 3 [] useful | |
19. How would you rate the agricultural information obtained from sources other than those named above?
- | | |
|----------------------|------------------|
| 1 [] very useful | 4 [] average |
| 2 [] not too useful | 5 [] not useful |
| 3 [] useful | |
20. How often do you attend extension programs such as agricultural workshops, seminars, small group sessions, farm tours, field-days and other farm/office demonstrations in a year?
- | | |
|------------------|---------------------|
| 1 [] never | 4 [] 11-15 times |
| 2 [] 1-5 times | 5 [] over 15 times |
| 3 [] 6-11 times | |
21. How valuable are the skills and information obtained from such activities?
- | | |
|----------------------|------------------------|
| 1 [] very important | 4 [] unimportant |
| 2 [] important | 5 [] very unimportant |
| 3 [] not sure | |
22. In what form(s) is/are most of the information received from extension? (check more than one).
- | | |
|--------------------|------------------|
| 1 [] verbal | 4 [] audiotapes |
| 2 [] publications | 5 [] posters |
| 3 [] videotapes | |

23. If it were possible to have the same skills and information on videotape, would you opt for live events or prefer to view them on videotape?
- 1 ☐ have the v/tapes most of the time
 - 2 ☐ have the v/tapes sometimes & live events other times
 - 3 ☐ have both live events and v/tapes at same time
 - 4 ☐ attend live events most of the time
 - 5 ☐ Don't know
24. Sometimes skills are either too technical and lengthy to be well understood at just a one-time delivery. Would you pay a modest-fee for such extension information/skills on video tapes? (e.g. 'How to prune your cherry trees')
- 1 ☐ definitely yes
 - 2 ☐ yes
 - 3 ☐ not sure
 - 4 ☐ no
 - 5 ☐ definitely no
25. Of late, a number of how-to-do-it videotapes have flooded the market. Would you support the Cooperative Extension Office providing certain programming on video?
- 1 ☐ strongly support
 - 2 ☐ slightly support
 - 3 ☐ uncertain
 - 4 ☐ slightly oppose
 - 5 ☐ strongly oppose
26. How often do you use your Video Cassette Recorder?
- 1 ☐ very often
 - 2 ☐ often
 - 3 ☐ sometimes
 - 4 ☐ never
 - 5 ☐ not applicable
27. What do you see as the most important quality of VCR? Its ability to allow you to: (check only one)
- 1 ☐ record a program while away
 - 2 ☐ freeze action ability
 - 3 ☐ watch video when you like
 - 4 ☐ easily replay difficult parts of video
 - 5 ☐ none of the above
28. How best do you think videotapes should be distributed so that everyone can easily obtain them? Place them at: (check as many apply)
- 1 ☐ extension offices
 - 2 ☐ local video stores
 - 3 ☐ direct mail service by extension office
 - 4 ☐ appointing special local agents
 - 5 ☐ don't know
 - 6 ☐ local libraries
 - 7 ☐ other _____ (please specify)

29. At which of these locations would you prefer to view videotapes?
(check as many as apply)

- 1 [] extension county office?
2 [] local libraries?
3 [] local churches?
4 [] court house?
5 [] at home?
6 [] don't know?

Part III Directions:

Please circle a number from 1 through 5 on the scale to the right of each item, thus indicating the extent to which you agree or disagree with the following statements;

Strongly Disagree - SD
Disagree - D
Undecided - U
Agree - A
Strongly Agree - SA

- | | | | | | | |
|-----|--|---------|--------|--------|--------|---------|
| 30. | Videotapes provided by extension will significantly reduce my time and money spent going to, or contacting the extension office | 1
SD | 2
D | 3
U | 4
A | 5
SA |
| 31. | Having extension videotapes will reduce my time and inconvenience spent in meeting the subject matter specialists or visits to area farms for demonstrations.... | 1
SD | 2
D | 3
U | 4
A | 5
SA |
| 32. | Availability of programs on videotapes would mean a ready access to expert knowledge without the hassle of traveling to the extension office..... | 1
SD | 2
D | 3
U | 4
A | 5
SA |
| 33. | Availability of videotapes for learning certain skills in the privacy of one's home would be more convenient than going to area tours and demonstrations.... | 1
SD | 2
D | 3
U | 4
A | 5
SA |
| 34. | With videotape programming, one can learn new skills without leaving the farm..... | 1
SD | 2
D | 3
U | 4
A | 5
SA |
| 35. | Viewing videotapes in groups would provide chances for some farmers to meet and discuss some hard-to-solve problems and share experiences with one another..... | 1
SD | 2
D | 3
U | 4
A | 5
SA |

- | | | | | |
|----|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 |
| SD | D | U | A | SA |

Part IV Directions:

The following questions are to tell us about yourself. Please check one answer for each of the questions.

37. Are you male or female?

2 [] female

38. Are you married or single?

3 [] other

39. Including yourself, how many men, women and children are there in your family living in this household/farm? (Please indicate the number of each).

5 children under 6 years

40. Please check your age bracket

6 [] 60 and above

41. How much education do you have? (Please check only one).

8 [] others (please specify)

42. Which of the following classifications comes close to describing your occupation? (Please check only one).

1 [] farmer	5 [] police, postal, fire
2 [] manager	6 [] teacher/educator
3 [] proprietor	7 [] professional/technical
4 [] office worker	8 [] others

43. Please check your approximate total family income (before taxes).

1 [] \$10,000 or less	5 [] \$40,001 - 50,000
2 [] \$10,001 - 20,000	6 [] \$50,001 - 60,000
3 [] \$20,001 - 30,000	7 [] \$60,001 - 70,000
4 [] \$30,001 - 40,000	8 [] \$70,001 and above

Please do not include your name on this questionnaire. Thank you.

Return to: The County Extension Director
Washtenaw Cooperative Extension Office
P. O. Box 8645
Ann Arbor, MI 48107

100

Agricultural & Extension Education



Michigan State University
410 Agriculture Hall
East Lansing, Michigan 48824 - 1039
(517) 355 - 6580

October 17, 1988

Name of Respondent
Address

Dear (Name of Respondent),

We recently sent you a questionnaire seeking your opinion about the use of video cassette recorder (VCR) as an extension delivery tool.

Only a small number of Washtenaw Cooperative Extension clientele were selected to participate in the study. In order for the results of the study to be truly representative of the opinions of all the county agricultural farmers, it is essential that each person return the questionnaire.

Complete confidentiality is assured. Your name will not be placed on the questionnaire. Completion is voluntary with no penalty for non-participation.

In the event that your questionnaire has been misplaced, a replacement is enclosed. We estimate that it will take 20 minutes to complete the questionnaire. Your cooperation is highly appreciated. Feel free to phone us at (313-971-0079), if you have questions.

Sincerely,

Morse L. Brown
County Extension Director
Washtenaw County

Patrick Anyanetu
Research Asst. Dept of AEE
Michigan State University

Agricultural & Extension Education¹⁰¹



Michigan State University
410 Agriculture Hall
East Lansing, Michigan 48824 - 1039
(517) 355 - 6580

November 28, 1988

Name of Respondent
Address

Dear (Name of Respondent),

Last month a reminder was sent requesting that you return the questionnaire sent to you last September from this office. As one of the registered clientele of Washtenaw county, you were selected to participate in the study because of your direct knowledge and experiences in your profession.

As this study is being undertaken because of the need for us to continue improving our services to the county, it is necessary that all questionnaires be returned. Moreover, because of the significance each questionnaire has to the usefulness of this study, it is essential each person return the questionnaire.

You are assured of complete confidentiality as your name will never be placed on the questionnaire. We need the opinion of all the few selected participants for the study to be truly representative of the opinions of all respondents.

This is a Ph. D. research project and it needs your completed questionnaire to be successful.

In the event that your questionnaire has been misplaced, a replacement is enclosed. Please give this your prompt attention. Your cooperation is greatly appreciated.

Sincerely,

Patrick Anyanetu
Research Assistant,
Dept. of Agil. & Extension Education
Michigan State University

APPENDIX B

APPENDIX B

Table of NonRespondents Information

Question No.	Responses
1. Have Working TV?	
yes	10
no	0
2. Have Working Radio?	
yes	4
no	6
3. VCR Access?	
yes	6
no	4
4a. How VCR Used.	
Watch prerecorded tapes	5
Record TV/Movies	2
Record Local Events	2
Record for Viewing with Friends	2
Other Use	2
No Response	1
4b. Source of V/tapes.	
Tape off air	1
Buy	1
Rent	4
Borrow from friend	0
Borrow from library	0
Other	0
No Response	1

4c.	Kinds of Video Watched Most	
	Soap Opera	0
	Classics	1
	Comedy	4
	Instructional	0
	Drama	0
	Documentary	0
	Adventure	0
	Most Kinds	0
	No Response	5
11.	Visit per year to Ext. Office	
	None	5
	1-5	4
	6-10	1
	11-15	0
	more than 16	0
14.	Mass Media providing most Ag Info.	
	Radio	2
	TV	0
	Newspaper	1
	Farm Publications	4
	Others (Mail and Ext. Service)	2
	No Response	1
15.	Radio Ag Info vs other Media.	
	Very Superior	0
	Superior	2
	Above Average	0
	Average	1
	Below Average	1
	No Response	6
16.	TV Ag Info vs other Media.	
	Very Superior	0
	Superior	0
	Above Average	0
	Average	1
	Below Average	4
	No Response	5

20. Frequency per year attend Ext. Programs.

Never	6
1-5	2
6-11	1
11-15	0
over 15	0
No Response	1

21. Value of Skills obtained from programs

Very Important	2
Important	2
Not Sure	0
Unimportant	0
Very Unimportant	0
No Response	6

23. Preference of Live vs Video events.

Video most of the time	2
Mixed Video and Live events	0
Live and Video at same time	2
Live events most of the time	2
Don't Know	0
No Response	4

25. Would support Ext. Office Videos.

Strongly Support	3
Slightly Support	2
Uncertain	1
Slightly Oppose	0
Strongly Oppose	0
No Response	4

27. Most important Quality of VCR.

Record while away	3
Freeze Action	0
Watch Video at preferred time	3
Easily replay difficult parts	0
None of the above	0
No Response	4

29. Preferred Video viewing location.
- | | |
|---------------|---|
| Ext. Office | 0 |
| Local Library | 0 |
| Local Church | 0 |
| Court House | 0 |
| At Home | 6 |
| Don't Know | 0 |
| No Response | 4 |
30. Videos would reduce time spent going to Ext. Office.
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 1 |
| Uncertain | 2 |
| Agree | 3 |
| Strongly Agree | 0 |
| No Response | 4 |
32. V/tapes would mean ready access to expert Knowledge.
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 0 |
| Uncertain | 1 |
| Agree | 4 |
| Strongly Agree | 1 |
| No Response | 4 |
33. Videos for home use more convenient.
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 0 |
| Uncertain | 1 |
| Agree | 6 |
| Strongly Agree | 0 |
| No Response | 4 |
37. Male Female
- | | |
|---|---|
| 5 | 5 |
|---|---|
38. Married
- | |
|----|
| 10 |
|----|
40. Age
- | | |
|--------------|---|
| Under 20 | 0 |
| 20-29 | 0 |
| 30-39 | 3 |
| 40-49 | 2 |
| 50-60 | 1 |
| 60 and above | 4 |

41.	Education	
	8th Grade or less	1
	High School but did not grad.	2
	High School Graduate	3
	Some years in college or Tech.	2
	Bachelor's Degree	1
	Graduate Work	1
	Master's Degree and above	0
	Other	0
42.	Occupation	
	Farmer	8
	Manager	0
	Proprietor	0
	Office Worker	0
	Police, Postal, Fire	0
	Teacher/Educator	2
	Professional/Technical	0
	Others	0
43.	Income	
	\$10,000 or less	2
	\$10,001 - 20,000	1
	\$20,001 - 30,000	0
	\$30,001 - 40,000	0
	\$40,001 - 50,000	1
	\$50,001 - 60,000	1
	\$60,001 - 70,000	0
	\$70,001 and above	2
	No Response	3

APPENDIX C

APPENDIX C

**University Committee on Research Involving Human Subjects
Approval Letter**

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
306 BERKELEY HALL
(517) 487-9736

EAST LANSING • MICHIGAN • 48824-1111

June 23, 1988

Patrick Anyanetu
410 Ag Hall

Dear Mr. Anyanetu:

Subject: "MODERN COMMUNICATION TECHNOLOGY IN
EXTENSION: VIDEO CASSETTE RECORDER
(VCR), AS AN EXTENSION DELIVERY
TOOL IRB# 88-214"

The above project is exempt from full UCRIHS review. The proposed research protocol has been reviewed by another committee member. The rights and welfare of human subjects appear to be protected and you have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to June 23, 1989.

Any changes in procedures involving human subjects must be reviewed by UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to my attention. If I can be of any future help, please do not hesitate to let me know.

Sincerely,



John K. Hudzik, Ph.D.
Chair, UCRIHS

JKH/sar

cc: O. D. Meaders

LIST OF REFERENCES

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