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CONTEMPORARY NAVAJO WEAVING:
A NATIVE CRAFT INDUSTRY IN TRANSITION

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of the Ohio State University

By

J. June Wilson Goll, B.S., M.S., M.S.

*****

The Ohio State University
1986

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To My Parents
I express sincere appreciation to my adviser, Dr. Lois E. Dickey who provided professional and personal guidance throughout the study. Gratitude is also extended to my committee, Dr. Matthew Herban, Dr. Esther Meacham, and Dr. Amy Zaharlic for their help. Appreciation goes to Bruce Burnham for his enthusiasm and early encouragement of the study. The assistance of Gloria Duus and May Lee from the Navajo reservation and their time and insights were invaluable to the study for which I am gratefully appreciative. I am especially indebted to my family for their support and faith in me throughout this project and in all my preceding endeavors.
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Chapter 1
INTRODUCTION

Navajo weaving has achieved an elevated status both in American and international museums, galleries, and private collections. This historical craft has progressed a long and often arduous path to reach its current state of the art. Dentzel (1977, p. 20) noted that "Throughout the struggles for survival they (the Navajo) retained their great character and philosophy and continued to practice their many skills, particularly ... blanket and rug weaving." During the seventeenth and eighteenth centuries, Navajo weaving evolved and became widely known throughout the southwestern United States; the blankets and rugs were valued items for their trade worth.

A number of researchers have approached the study of Navajo weaving from an historical viewpoint (Amsden, 1934; Boles, 1977; Rodee, 1977, 1981; Simmons 1977; Wheat, 1976, 1977). In addition, some scholars have investigated the weaving from the perspective of the period in which the researchers lived (Anderson, 1951; Reichard, 1934, 1936, 1939). However, only a limited number of studies have focused on the contemporary weaver and her work (Hedlund, 1983). The current interest of researchers in studying
Navajo weaving in relation to the environment in which it is evolving is due to the need to increase the understanding of the Navajo and their weaving in relation to contemporary culture.

Navajo weaving has developed over three centuries as an assimilated form of art. The tradition of weaving by southwestern people predates the arrival of the Navajo; it is generally assumed that the Navajo learned the weaving craft from Pueblo weavers (Dockstader, 1978; Wheat, 1976). The Navajo weavers developed the learned craft and imparted their own distinctive sense of aesthetics and innate skills to their weaving. Wheat (1977, p. 11) recognized that "Navajo traditional weaving had three main sources - Pueblo Indians, Spanish colonists and most important of all, the Navajo's own rich and fertile sense of design." Early weaving provided the Navajo people with their practical, everyday needs such as clothing, pouches, and blankets. These items also became an important trade commodity with other Indian people and with early explorers and settlers in the southwest (Dockstader, 1977b). However, the function of weaving changed as New Mexico and the Navajo people became a conquest of the United States in the mid-nineteenth century. In assuming care of the Indian people during the 1860's, the U.S. government provided commercial clothing and blankets for the Navajo. Nevertheless, the Navajo weaver endured and
continued to weave, thus the tradition of weaving did not die out (Wheat, 1976).

There were also those who recognized and encouraged the native craft of weaving. U.S. military personnel, of the Bosque Redondo era in the 1860's, appreciated Navajo textiles and supplied the Navajo with commercial yarns to encourage them to continue their weaving. In addition, they purchased weavings from the Navajo to take to the east with them. As the Navajo returned to lands in western New Mexico and Northeast Arizona, after being interred at Bosque Redondo, the newly licensed traders who had located in that area also accepted the weavings as payment for staple goods. Hence, Navajo weaving in the latter part of the nineteenth century began a halting ascension to its contemporary art form.

Over the years, the product from the Navajo loom has received great assistance from the trader (McNitt, 1962). It was the trader who developed the marketing methods that had such direct and strong influence on the evolution of the rug, for he worked with both the weaver and the potential rug purchaser (Boles, 1977). The rug purchaser gave the trader the incentive to persist. It has been this purchaser, the tourist/curio hunter turned serious textile collector, who has provided a market for native textiles throughout the ensuing years, therefore helping to keep the craft alive (Dockstader 1977b). Thus, the three key components of the
marketing system are the weaver, the trader, and the rug collector (Boles, 1977; Dedra, 1975).

Many have cited the economic importance of weaving as a possible determining factor in the eventual survival or demise of weaving (Adair, 1944; Kent, 1961; Dockstader, 1977b, 1978). Although economic factors are of undeniable importance, Hedlund (1983) cites other considerations as well. Hedlund (1983, p. 331) noted that

"weaving is an integral part of ... Navajo women's roles ... (they) reflectively recognize the value of weaving as an ethnic identifier, as a symbol of their Navajo heritage."

Thus, weaving goes beyond economics to become a distinctive and symbolic part of the culture.

Evidence that Navajo weaving continues to be highly valued, not only as a native craft form but also as objects of art, comes from the recognition by rug sellers and buyers at internationally known auction houses such as Sotheby-Parke-Bernet's and Christie's (Clark, personal communication, June 24, 1985). Such recognition helps to assure the future of Navajo weaving from the standpoint that there is a public that values Navajo textiles and will be watching forthcoming efforts of weavers for textiles of renown.

Based on historic studies and the current recognition of Navajo weaving, a number of questions may be posed, such as: 1) Has the intricate inter-relationship between the weaver, the trader, and the collector changed in recent decades? 2)
Are the trader and collector still integral components of the system? 3) What effect has acculturation made on contemporary weaving and the marketing of Navajo rugs? 4) What changes have occurred in the marketing system of Navajo rugs? 5) If there have been changes in the marketing system, have these changes influenced the traditional materials and methods of the weavers? Answers to these questions need to be sought to help in the continuation of the tradition of Navajo weaving and to contribute to the knowledge of Navajo weaving.

The Problem

The researcher addressed the stated questions to gain insight into contemporary Navajo weaving. The purpose of the study was to investigate the three key components -- the weaver, the trader, and the collector -- in regard to their beliefs and perceptions as to changes in the rug industry and its current status. Specific objectives of the study were as follows:

1) To document developments in methods of production and in materials used for Navajo rugs since the mid 1960's.

2) To assess the quality of the product in regard to materials, weaving, and design.
3) To assess the relationships among the weavers - traders - collectors of Navajo rugs in terms of their perceptions regarding:
   a) their effect on the weaving industry of the Navajo Nation since the 1960's
   b) the changes which have occurred since the mid 1960's to the current time
   c) the impact of the current market system for Navajo rugs.

4) To identify strengths of this craft industry which could be applied to similar industries: production of product, inter-relationship of component members, and marketing of product.

Limitations

Navajo weaving has been the subject of many studies and the approaches used in the studies have varied in examining different aspects of the weaving. The historian has sought significant dates and events to place them in chronological order to provide a basis for understanding the evolution of the rug. From a cultural standpoint, the anthropologist has examined the importance of weaving and the rug within the Navajo culture and effects of the intertwining dominate Anglo culture on the rug. The art historian has valued the rug for its significant contribution to the sophisticated realm of art. The marketing researcher has explored the unprecedented
manner in which the rug has been marketed through the years; while the sociologist has viewed the rug, weaving, and weaver as aspects holding unique positions within the Navajo society. As a textile, the Navajo rug has been examined within the realm of other significant textiles on an international basis by the textile and clothing historian. Each of the dimensions is not self-contained for all are inter-related. Thus, the researcher believed that the varying approaches have allowed examination of the complex dimensions from many perspectives, which in turn have contributed toward providing an increased understanding of the Navajo rug and of those who have contributed to its evolution.

Individually, each approach is incomplete within itself. The different approaches also carry their own traditional research methodology; and again, each of these methodologies has its own inherent set of limitations. Within the overall scheme a universal understanding is gained through varying methodologies and with diverse dimensional approaches.

Specific limitations encountered during this study were:

1) Documented written evidence from the Navajo regarding weaving was limited since the Navajo are an oral people.

2) The researcher was from a culture different than that of the Navajo. Every effort was made
throughout the study to verify responses for better understanding.

3) The weavers in the study were from two of the 150 chapters in the Navajo Nation, thus attention was focused on these two areas rather than an all inclusive sample.

Organization Of The Dissertation

The focus of this study was on the inter-relationships of the contemporary weaver, the trader, and the textile collector and how the three groups affected the ultimate product, the rug. Previous studies and written documentation regarding Navajo weaving are presented in Chapter 2 and the methodology of the study is included in Chapter 3. The results are presented in Chapter 4, along with an assessment of the information gathered. In Chapter 5, a summary and the implications of the study are provided.
Chapter 2
REVIEW OF LITERATURE

"...the ability to accomplish elaborately woven designs was early in the history of man in North America, and can be demonstrated by some of the surviving fragments which have been recovered from excavations in the Southwestern United States (Dockstader 1978, p. 17)."

Many groups of North American Indians are known to have been weavers; however, it is the Navajo who created the strong weaving tradition that has culminated in worldwide acclaim (Dockstader, 1978). Interest in Navajo weaving has resulted in many publications from varied viewpoints. Many of these publications provide descriptive information about the technique of weaving; other works are historically based. It is not uncommon to find that some of the current information available has been compiled from prior publications, or merely reprinted.

The literature was reviewed to gain background information on the weaving of the Navajo people from both historic and current perspectives. The presentation of the literature is provided in the following sections: 1) historical development, 2) techniques used and quality indicators for Navajo rugs, 3) cultural perspectives, and 4) artistic presentation.
Historical Development Of The Navajo Rug

The southwestern United States has long been inhabited by various Indian people. The Navajo were believed to have migrated to the southwest in about the 15th century from the northern areas of Canada and Alaska (Spencer and Jennings, 1977). However, Wheat (1976, p. 420) noted that documentary evidence is not available regarding the Navajo prior to the early seventeenth century. Therefore, information regarding the early period is somewhat limited.

The tradition of weaving by the Navajo is assumed to have begun in the southwestern part of the country following contact with the Pueblo Indians. Fox (1978) noted that Pueblo people of the southwest had a tradition of weaving as early as 300 A.D. so that it was well developed by the time the Navajo arrived in the area. Many researchers have speculated that the Pueblo people taught the Navajo their weaving skills (Dockstader, 1978; Rodee, 1981; Wheat, 1976). This source of technical skill seems possible considering that the two groups shared the same geographic area, were in close contact over a long period of time, and shared other traditions as well (Spencer and Jennings, 1977). The weaving tradition of Indians in the southwestern area was also strengthened through contact with the Spanish over the centuries (Wheat, 1977). The contributions of the Spanish people included the introduction of Churro sheep from
Spain, the introduction of the four harness loom, and the availability of products from skilled Spanish weavers brought into the area (Rodee, 1977; Wheat, 1977). The Navajo throughout the years readily adopted those aspects of other cultures which combined well with their own (Hedlund, 1983). Thus weaving was adopted by the Navajo along with Churro sheep, various aspects of design, and the simple loom of the Pueblo people; less adaptable aspects, such as the four harness loom and spinning wheels, were left for other groups in the southwest (Hedlund, 1983, Rodee, 1977; Wheat, 1977). The Navajos’ weaving tradition arose from their assimilation of ideas and techniques and their own innovative ability.

The literature relating to the development of the Navajo rug refers to specific periods: 1) the early period prior to the eighteenth century; 2) the classic period from the eighteenth century to 1863; 3) the late classic period from 1863 to 1880; 4) the transitional period from 1880 to 1920; 5) the revival period from 1920 to 1940; and 6) the regional period from 1940 to the present. Each of the periods have been described in regard to major changes that took place in the development of Navajo weaving which brought about design and quality changes within the textile. The identified periods are fairly consistent throughout the literature with the exception of titles for the periods and some variation as to dates. As with other aspects of history, periods merge and overlap into each other.
Prior to the eighteenth century, referred to as the early period of Navajo weaving, the textiles were functional and the designs were simple stripes, similar to those used by the Pueblo Indian (Wheat, personal communication, 1981). There are gaps in the literature concerning this period and information about early Navajo weaving is not readily available. However, it is known that during this era the Navajo began weaving and that they were sheep herders, were raiders, and were also doing some farming (Spencer and Jennings, 1977; Wheat, 1977). There are few actual textile remnants that exist from the early period; those few pieces that do remain owe their survival to the dry southwestern climate.

The eighteenth to mid-nineteenth century is referred to as the classic period. During this period the relatively simple striped designs were developed further by the Navajo weaver into elaborate stepped terraces (Rodee, 1981). In addition, Wheat (1977) noted that various geometric shapes were created, such as diamonds and crosses. The major fiber used was wool and the primary colors were those naturally occurring in wool; white, brown, black and grey (Amsden, 1934). In addition, the colors red and blue were used (Rodee, 1981). Rodee (1981, p. 3) documents that the red and blue colors were made possible by natural dyes and also by red yarns, known as bayeta, which were extracted from red English blankets, often termed bayeta blankets. The natural
dyes and the English bayeta blankets were trade items from the Europeans in the area (Rodee, 1981, p. 3). Hedlund (1983, p. 17) disputes Rodee's findings of a red dye source of cochineal and claims, but does not elaborate, that recent discoveries indicate that a "lac insect ... is known to be responsible for the majority of the raveled red yarns found in blankets prior to the 1860's". Verification of the actual dye source has still to be obtained from the many blankets which exist from this period, particularly nineteenth century blankets.

Information is limited concerning sources of influence or sources of origin for both materials and design concepts of the classic period. However, Wheat (1977) and Simmons (1977) both note that the Spanish made an effort to promote the already strong weaving tradition of the Navajo in the area and brought in the famed Mexican weavers, the Bazan brothers. The Navajo's ability to assimilate ideas from others made possible an integration of ideas from Mexican weavers. Navajo weaving moved into its next period as the Navajo experienced great changes in their history.

In the late classic period, the mid-nineteenth century, the Navajo people became a conquest of the U.S. government. They were displaced from their homeland and were interned from 1863 to 1868 at Bosque Rendo, an area near Fort Summner, New Mexico. While the Navajo were in confinement, the government provided weavers with commercial yarns, referred
to as Germantown yarns, as well as recently developed aniline
dyes, the Pendleton blanket, and commercial clothing (Amsden,
1934; Kent, 1961). Although the provision of the Pendleton
blanket and commercial clothing relieved the Navajo of their
functional need to weave, the Navajo continued the weaving
tradition. The use of the Germantown yarns and aniline dyes
were assimilated into their work. Also during this period,
new design elements were incorporated into their work in the
form of a complicated serrated diamond motif from the
"Saltillo" weavers of Mexico (Simmons, 1977). The ability of
the Navajo to assimilate ideas from other cultures made it
possible for them to adapt the new yarns and design elements
into their weaving. As Kent (1961) noted, the most evident
incorporation of ideas and techniques from other cultures was
during the late classic period.

Although the weaving tradition continued throughout a
rather difficult time in Navajo history, there was a general
decline in the quality and durability of Navajo textiles due
to the use of commercial yarns and dyes, and the use of
commercial cotton string for the warp. An additional factor
that affected the quality of the textiles was a
deteriorization of wool quality from reservation sheep

Efforts to upgrade the quality of Navajo weaving were
made by traders who began to promote a return to handspun
wool yarn. This process brought about the transitional
period, 1880 to 1920, as the traders looked to the blanket and envisioned a rug. In order to assure a market for the weaving, traders promoted the rugs to eastern buyers through catalogs and correspondence (Boles, 1977; McNitt, 1962). Traders began catering to the market in terms of the product desired by buyers, which was a rug rather than a blanket. Therefore, the use of the sturdier yarns made of wool, rather than cotton, was encouraged along with colors and designs that sold best. Boles (1977) noted that rug buyers from the east who were in correspondence with trading post trader J. Lorenzo Hubbell had definite ideas as to the colors and designs they desired in rugs. The color sense of these buyers did not correspond well to the bright colored Germantown yarns used to make the 'eye dazzler patterns' for rugs of this era. Thus, through the traders' efforts, a more desirable product was promoted than was previously available, as far as a non-Indian market was concerned (Rodee, 1981).

McNitt (1962) documents the concern of early licensed traders for the general decline of Navajo weaving and refers to the efforts made by the traders to improve the rug. The traders, who were supplying the Navajo with commercial products from the east, were also confronted with the challenge of finding an item of Navajo production that could be used as an exchangeable commodity (McNitt, 1962). Records from trading posts of this era indicate that traders made a
concentrated effort to help the Navajo produce a woven item that would be sought and accepted by an eastern market (Boles, 1977; McNitt, 1962). Traders, such as C. N. Cotton, J. L. Hubbell and J. B. Moore, "worked vigorously on the problem of creating a market for Navajo blankets (rugs) back east" (Amsden, 1934, p. 179). Boles (1977) also revealed that exhaustive efforts were made by traders, like Hubbell, who corresponded closely with the buyer in the market to search out preferences in color, design, and size for the rugs. Simmons (1977) refers to Moore's dependence on Oriental design concepts for rugs sold from his post through a catalogue circulated on the east and west coasts. Traders who were actively working the rug market also required the weaver to return to better quality wool, hand spun yarns, fast dyes, and skillful weaving (Rodee, 1981). This transitional period was also documented by Kent (1981) in a study of rugs that evolved from the regional trading posts of the era.

As the 20th century progressed, Navajo weaving went through several phases. After World War I, there was a general decline in both the quality and acceptance of Navajo weaving but by the late 1920's there was a revival in quality and then in public interest which continued through the 1930's and 1940's. The revival period came about from the efforts of interested people (Kent, 1981). New traders and other interested parties sought to re-create early Navajo
blanket designs in the rugs as well as to improve the dyes. Experiments in dyeing were carried out to re-establish colors used in weavings of earlier times and to ensure fast dyes (Kent, 1981). L. H. (Cozy) McSparron of Chinle Trading Post and Mary Wheelwright of Boston were instrumental in this work (Kent, 1961, 1981; Stoller, 1977). Experiments in dyeing were conducted with both natural and aniline dyes (Amsden, 1934; Kent, 1981). Also of note were the efforts of traders, such as Bill and Sally Lippincott, who encouraged and worked with the weavers to introduce new, as well as previously known, natural dye sources (Kent, 1961; James, 1976).

Another notable contributor of this period was Grandstaff who worked at the Fort Wingate sheep farm that had been established by the U.S. government for sheep development (Kent, 1961).

By the end of the revival period a new trend developed and became a reality in the 1940's after World War II, that is, the identification of rugs by the geographic regions in which they were woven (Dedra, 1975). In this era of rug development, known as the era of the regional rug, the rugs were clearly identifiable as originating from specific regions, such as Two Grey Hills, Wide Ruins, Teec Nos Pos and others (Dedra, 1975; James, 1976). Again, the importance of the traders was evident since many of the rugs took on the names of the various trading posts on the Navajo reservation. A number of authors have devoted much effort to
the history and description of the so-called regional rugs, as shown in works by Dedra (1975), James (1976), Kent (1961, 1981), Maxwell (1963), and Rodee (1977, 1981). Very distinctive and specialized designs evolved for the regional rugs and reflected the efforts of the trader of the post where the rug originated. This period has brought Navajo weaving to a new state of the art (Dedra, 1975, Dentzel, 1977).

Dedra (1975) has pointed out that the regional rug styles remained strong throughout the 1950's, 1960's and 1970's. James (1976) noted an interesting development during this time which had an impact on the regional rug concept, that is, the popularization of the pickup truck. Since the truck allowed for greater mobility for the Navajo people than before its use, the Navajo weaver was able to travel from post to post in order to obtain the best price for her work. Not only was she able to obtain better prices from reservation traders, but she also found it easier to travel to sources off the reservation (hereafter, these sources will be described as dealers) (Hedlund, 1983).

In general, a revival of arts and crafts throughout the U.S. during the 1960's and 1970's paved the way for increased acceptance of Navajo textiles. Thus, a "renaissance of Navajo weaving" was created according to Dentzel (1977). As a result, financial rewards have been such that master weavers have persisted and their efforts have been
increasingly acknowledged by the art world (Walch, 1976; Dentzel, 1977; Clark, 1985, personal communication). Recent developments have included the use of finer yarns which allows for tighter weaves and more clarity of pattern, while the experimentation with design and color scheming has resulted in greater complexity of design (Dockstader, 1977).

The overview of Navajo weaving based on historical and descriptive writings provides a background for the present study. The next area of the literature to be examined is that of the technological aspects of the weaving by which the eventual quality of the work is determined.

Quality Indicators And Techniques Used

For woven textiles throughout the world, certain phenomenon are regarded as indicators of quality and have remained consistent over the years. Quality indicators include the tangible aspects of a textile, such as the materials and techniques used, as well as the intangible aspects, such as the skill of the weaver (Creager, 1974). Navajo textiles share many common indicators of quality for all textiles, but also have some unique properties (Birrell, 1959; Dedra, 1975; Reichard, 1936; Pendleton, 1974). Quality indicators for a Navajo rug include the use of 1) long, straight, and dry wool fibers; 2) a twining cord on selvage edges; 3) natural colors; 4) vegetable and mineral dyes; 5) and handspun yarn. In addition, the qualities inherent
for all textiles, such as straight edges, even dyeing, and skillful weaving, are also important. In the past, textile quality was often regulated by weavers' organizations known as guilds (Wilson, 1979). However, textile quality for the Navajo has never been officially regulated even though various people or groups have promoted quality and rewarded it through paying higher prices for rugs (Gould, 1982).

High quality textiles have always been made of high quality materials; for Navajo rugs, quality rugs were made from wool (Bennett and Bighorse, 1971). Also important are quality commercial and natural dyes used to color the wool (Bennett, 1979; McNeal, 1982). Quality of the finished rug is also dependent on the inherent character of workmanship, that is, the skill of the individual weaver and, to a much lesser extent, the tools used by the weaver (Pendleton, 1974). In order to examine the quality indicators of Navajo rugs and the techniques used with which to create the rugs, it is relevant to start at the beginning with the sheep and the wool which is produced.

Reichard (1936) claims that the origin of Navajo sheep is unknown. However, Wheat (1981) traced the date of origin of sheep to the 1598 arrival of Spanish explorers, while McNeal (1982) stated that the first sheep arrived with Coronado in 1540. These sheep were probably the Churro sheep breed common to Spain; the wool was well suited to hand processing for it was coarse, long, and dry (Brown, 1978; McNeal,
personal communication, 1985). Over the years, the U.S. government has introduced various breeds of sheep, such as Rambouillet, Corridale, and Merino, to the Navajo reservation in the attempt to upgrade sheep quality. Spencer and Jennings (1977) wrote of efforts by the U.S. government to improve sheep quality from the standpoint of producing a combination meat and wool animal based on the wool type useful to Anglo producers who sold wool to commercial mills; also mentioned were the government's attempt at range control through indiscriminate stock reduction during the 1930's for range management purposes (McNeal 1982). However, Grandstaff (1942) made the first attempt to improve the Navajo flocks for the specific characteristic of rug wool for hand processing and hand weaving. McNeal has reinstituted efforts similar to Grandstaff's work that focus on the revival of the original Churro types of sheep in the attempt to again improve the quality of wool for Navajo rugs. Hedlund (1983) stated that the descendants of the Spanish Churro sheep, now known as "old type" Navajo sheep or Navajo Churro sheep, produce the best type of fiber for Navajo rugs.

Rodee (1981) established methods which can be used by both researchers and collectors to determine fiber type in Navajo rugs. Based on these methods, Rodee identified the fibers that have best survived age and wear, and also found that the Churro sheep fiber was the type best suited to rug weaving.
In general, the characteristics of wool which contribute to the ease of hand spinning seem to be contained in the Navajo Churro sheep fiber; this fiber is coarse and is extremely long for a wool fiber for it often measures 10 to 12 inches in length. The fiber is also relatively straight and has very little grease or lanolin (Simmons, 1977; McNeal, personal communication, 1985). However, the Navajo weavers' preference as to fiber type is not documented. Also unknown is whether or not any particular fiber type is promoted by traders or sought by collectors.

Once the fiber has been selected it must first be cleaned, usually washed, and then carded in preparation for spinning (Brown, 1978; James, 1914; Reichard, 1936). Yarn is created from the carded fiber with a simple tool known as a spindle that consists of a stick with a weight attached near one end (Hochberg, 1978). The resulting yarn quality comes from a combination of the fiber used and the skill of the spinner (Brown, 1978; Reichard, 1936). Yarn is often spun more than once in order to obtain desired tightness of twist (James, 1914; Reichard, 1936).

In addition to handspun yarn, commercial yarn has also been available and first appeared in Navajo textiles in the late nineteenth century (Matthews, 1884). The existence of commercial yarns has been mentioned by various researchers, but there is nothing in the literature that traces the use of commercial yarns throughout Navajo textile history.
Commercial yarn is available both pre-dyed or ready to be dyed.

After handspinning the fiber into yarn, the handspun yarn must then be dyed if colors other than natural wool colors are desired. Dyes available to the Navajo weaver include both natural dyes and aniline dyes or commercially produced dyes (Matthews, 1884; Bryan, 1940). Matthews (1884) provides details regarding colors of dyes used and describes some dyeing processes. More complete accounts of Navajo dyes, dye sources, and dyeing processes have been included in works by Amsden (1934), Bryan (1940), James (1914), Reichard (1934, 1936) and Young (1938). Recent investigative work on color was done by Boles (1977) and by Rodee (1981); in both studies, colors used in rugs were studied by determining the colors and dye sources which were 1) available to and used by the weavers; 2) promoted by the traders; and 3) requested by the rug collectors. After color selections have been made and the wool has been dyed, the Navajo weaver then turns to her loom.

The Navajo are a people of tradition and tradition is exemplified in their weaving loom. The loom described by Amsden (1943) and Reichard (1934) is the same type that the Navajo used for three centuries and continue to use today with minor modifications (Pendleton, 1974; Hedlund, 1983). The recent modifications do not change the structure of the textile that is woven, but instead, merely make the loom
itself easier for the weaver to handle. In the ninety years that intervened between the early description of the loom by Matthews (1884) and the more recent account of the technical aspects of the Navajo loom and weaving by Bennett and Bighorse (1971) and Pendleton (1974), little difference is apparent in the description of the loom and accompanying tools. Even the process of warping the loom and the weaving techniques used have remained constant.

The preparation of the loom is a meticulous process as a continuous warp is wound around two poles in a figure eight fashion (Pendleton, 1974). The two poles which hold the warp are placed horizontally between two more upright (vertical) poles and are attached to them to become the warp beams. Pendleton (1974) illustrates how this process then creates a frame type of effect when the warp is stretched tautly. Simple string heddles are attached and a shed stick inserted into the warp, thus two sheds are created (Bennett and Bighorse, 1971). This arrangement is used for the majority of Navajo rugs which are woven using tapestry weave techniques resulting in a weft face weave. However, some looms are set up with more elaborate heddle arrangements that allow for more than two sheds, which in turn allow for the weaving of various types of twills or the two faced rugs similar to double weave (Amsden, 1934). If the weaver has chosen a strong fine wool warp and a well spun weft yarn, from this
point onward the skill of the weaver is paramount for a superior rug to be woven.

Weaving skill not only lies with the individual weaver but the level of skill is somewhat of a tradition within the family (Burnham, personal communication, 1985). Some families specialize in quickly woven tourist grade rugs using lesser quality materials while other families will have many master weavers, each creating the finest rugs. Although the basic tapestry weaving techniques seem to be common knowledge among weavers, the more elaborate techniques used to create twill weaves and two faced rugs often are more obscure (Dedra, 1975). The skill of the weaver is evident in the finished rug and many authors encourage rug collectors to examine rugs closely for both quality and authenticity (Dedra, 1975; Bahti, 1975). Evidence of quality is found in rugs with wool warp, well spun weft, tightly packed and regularly woven weft, consistent colors throughout the textile, straight edges, well placed and evenly repeated design elements, twining cord edges and an overall design that is pleasing to the buyer (Dedra, 1975; Kent, 1961; Maxwell, 1963).

The changes in quality of Navajo rugs in regard to thread count, type of dyes, use of commercial versus handspun yarn, and the use of twining cords have not been examined on a systematic basis throughout Navajo rug history to the present time. The methods and materials used in Navajo rugs have
been documented by various researchers, including a recent study by Hedlund (1983) who recorded weaving methods and weavers' materials used in the Kinlichee chapter in the south central portion of the Navajo Reservation. However, no study was found in which detailed information was reported concerning weavers from a wider geographic area than a single chapter, as did Hedlund (1983), or from an extended family group, as did Reichard (1934, 1936).

Cultural Perspectives

Studies regarding any aspect of Navajo rugs or weaving within the environs of culture are limited; Hedlund (1983, p. 23) stated that "there is yet no synthesis of the cultural context of Navajo weaving for any time period." Instead, most studies have focused on the historical or descriptive aspects of Navajo weaving rather than cultural perspectives. Early accounts on Navajo weaving, such as Matthews (1884, 1891), give descriptive information about the textiles and processes undertaken to make the textiles but do not offer a view of the weaver or tell how her craft fits into her life. Pepper (1902) provides a more detailed account of weaving activities and explores the division of labor for weaving which gives insight into the weaver's daily existence.

Cultural aspects of the Navajo weavers' daily life have been intertwined with her weaving. Reichard (1934, 1936, 1939, and 1970) indicated that cultural attitudes and
behavior directly related to various aspects of the weaving. Stewart (1980) noted that Navajo culture molded the Navajo woman. They noted that the Navajo lead a life style that revolves around a strong family clan system. Spencer and Jennings (1977, p. 301) specify that the clan was matrilineal and matrilocal in nature. Personal qualities which the Navajo have held in high esteem are self modesty and strong family loyalty. Thus, they tend not to become involved in the affairs of others. This characteristic was reflected in their governing system for the Navajo did not have central government until the 1920's when a central Indian authority was established (Spencer and Jennings, 1977; and Goodman, 1982).

Research concerning the cultural perspective of Navajo weaving and weaver that has focused on the weaver in relationship to her weaving and to the Navajo culture include works by Anderson (1951), Reichard (1934, 1936, 1939), and most recently by Hedlund (1983). These researchers were concerned with the weaver and her standing in the Navajo society along with the position and acceptance of her craft.

Reichard's (1934, 1936, 1939) research in the 1930's was a detailed examination of the weaving activities carried on by a single family. Reichard's work focused on the attitude of the weaver toward her weaving and was carried out primarily with Reichard's adoptive Navajo family. However, she did spend some time with weavers outside of her "family"
learning weaving techniques not known or practiced by her own "family". Reichard's study follows a number of weavers within an extended family throughout several years and records their weaving experiences since childhood, the importance of weaving and weaving activities within their lives, the integration of weaving activities with other aspects of Navajo culture, and the passing on of this tradition to the next generation. Reichard's work highlights the importance of weaving among the Navajo and the manner in which it has been integrated into every aspect of their lives.

Anderson (1951) gathered information pertaining to design sources directly from weavers located in the south central part of the reservation. Weavers contributing information resided in three distinct weaving centers: Ganado; Klagetoh; and Wide Ruins. The study also included examination of original sources of rug designs such as the rug studies (paintings) located at J. L. Hubbell's trading post in Ganado. It was determined that both traders and rug studies were important sources for designs in Navajo rugs (Anderson, 1951).

A recent study by Hedlund (1983) focuses on the weavers from the chapter of Kinlichee. For this work, profiles of weavers were collected in order to present the "variability found in modern weaving in a single reservation community" (Hedlund, 1983, p. 329). Many aspects of weaving and the
current role of weavers in this community are documented in this work.

The preceding three studies constitute the major research on the cultural aspects of Navajo weaving. Other studies that have also contributed to this area of research were undertaken by Bennett (1974) and Boles (1977).

Bennett (1974) examined a cultural microcosm of Navajo weaving. Bennett’s work is an interesting account of the tradition behind the small line which is woven from the inside ground area of a rug to the edge of the outside border; this feature is known as a spirit trail.

Boles (1977) recognized the importance of the inter-relationship between the weaver, the trader, and the rug buyer. Although Bole’s study was historical in nature, she explored many aspects of the inter-relationship between the weaver, the trader, and the rug buyer. The study included a record of the changes in color and design for rugs traded through the trading post operated by J. L. Hubbell and an explanation of Hubbell’s approach toward changing the Navajo rug into a more marketable product for the American public. Hubbell displayed many commissioned rug studies (paintings) painted by Anglo artists, such E. A. Burbank and B. Little (Anderson, 1951; Boles, 1977). The rug studies were displayed by Hubbell in an attempt to promote specific rug designs and colors to be used by Ganado area weavers (Boles, 1977). Boles (personal communication, 1985) examined
Hubbell's correspondence and demonstrated his close relationship with Ganado area weavers, as well as with rug collectors throughout the United States.

These few studies form the core of research involving the weaver, the weaving, and the culture of which they are a part. The cultural and socio-economic areas of Navajo weaving and the Navajo weaver are fertile ground for research. A review of the literature reveals many aspects in the two areas that have been left uncharted by researchers. Correspondence with Gloria Duus (1985), head of the Navajo Women's Association, revealed a lack of current background material on Navajo weavers to even establish an initial data base that could be used to locate needs of weavers and problem areas within the weaving craft. Since few studies have been conducted in the cultural area on weaving which would encompass the role of the weaver and her craft within Navajo society, more research of this nature needs to be undertaken. Contemporary studies are needed that will assist those involved in current efforts to promote weaving and to encourage the weaver toward both new and traditional avenues of weaving (Duus, personal communication, 1985). As in so many areas of life, Duus (personal communication, 1985) asserts that economics play an important role in Navajo weaving today. From the significance of economics arises the need to view the cultural perspective of Navajo weaving in relationship to marketing.
Artistic Perspectives

An understanding of the cultural aspects of Navajo weaving involves the aesthetics of the weaving. The intrinsic beauty of handwoven textiles is expressed by Thompson (1980, p. 26):

"Weaving should, perhaps be regarded as man's first true invention, for an artifact was created with properties substantially differing from its constituent parts, and in sum total far greater than them individually."

Navajo textiles, too, are much more than the mere sum of their "constituent parts"; the beauty of Navajo rugs has long been appreciated by textile scholars and enthusiasts (McGreevy, 1981). Many articles have appeared in various magazines applauding the fine workmanship and artistic values of the Navajo rug. These articles have included works by Dentzel (1974) in Arizona Highways and Walch (1976) in American Fabrics and Fashions. Most detailed examinations of Navajo weaving also include a few words about the subsequent beauty of the rugs, such as Rodee (1981).

Textiles around the world and throughout history have held a much different place in the lives of people than they now hold (Tortora, 1981). Wilson (1979) reviews the industrial revolution, with its mass production of both functional and luxury textiles, that made textiles not only
readily available but also disposable from the standpoint of need. Prior to the industrial revolution all textiles were hand processed from the collection and spinning of the fiber to the actual weaving of the cloth. The time-consuming methods used for hand processed textiles imparted great value to the textiles since the production methods resulted in limited quantities of available textiles. Few societies in the world still produce handwoven textiles out of functional need. Therefore, textiles that are handprocessed usually find their way to a market that values the textile for its intrinsic artistic qualities. To understand Navajo rugs as an art form the media and process used to create the product must be examined. Navajo rugs are created by the weaving process using wool yarns; from the woven yarn a tapestry type of textile is created which is weft faced (Brown, 1978). Emery (1966) describes a weft face plain weave as one that has no pattern to it and one that makes use of "two fundamental principles; hiding the warp with closely packed wefts to secure solid color, and weaving independent wefts back and forth each in its own pattern area". Thus, a tapestry, such as the Navajo rug, is created.

Textile design development follows similar stages throughout the world because of the inherent aspects of weaving. Wilson (1979) notes that the earliest textiles were of plain weave and that decorative elements consisted of stripes woven into the textile by use of different colors of
weft yarns. Likewise, early Navajo design elements were stripes (Wheat, 1974). As for the technique of tapestry weaving (a form of plain weave) it has remained unchanged throughout history; the earliest tapestry fragments from Egypt date back to 3000 B.C. (Harvey, 1981).

The decorative "colored" weft yarns were at first created by the naturally occurring shades of wool fleece and later by dyes created from plants, animals and minerals (Wilson, 1979). Navajo weaving also exhibits the use of naturally colored wool stripes in the early textiles, while later textiles contain wool dyed with various natural dyes. Colors new to the Navajo, indigo blue and crimson red, became available through trade (Rodee, 1981). Then aniline dyes, created in England in the 1850's, swept the world of textiles, eventually reaching the Navajo toward the latter part of the nineteenth century (Wilson, 1979; Walch, 1976).

In modern times, not only have Navajo rug designs become very intricate, but numerous designs are also in existence. Hatcher (1974) included Navajo rug designs and colors under her section on Navajo secular arts since the rugs are made for use by people other than the Navajo. This work was primarily a review of literature that included a few statements about interpretation of colors and designs used in the rugs. Little basis for this interpretation was given.

As with any art form, not all products of the form are masterpieces. Many Navajo rugs of lesser grade were made
purely for and sold to the tourist trade (Dentzel, 1974). However, Stacey (1974) notes that the market has demanded high quality work and weavers have upgraded their work accordingly. Walch (1976) notes the wealth of color and design material embodied in the Navajo rug and Winters (1981) speaks of the impressive sense of balance imparted to the rugs by their creators. It is in this artistic vein that Kahlenberg and Berlant (1972) presented their work founded in the style of the art historian. Although the work was subjectively written, it was founded on a thorough knowledge of the background of Navajo textiles.

Boles' (1977) examination of the color and designs in transitional rugs was done using quantitative methods. Mera (1948) examined rug design elements in early rugs by comparison as did Simmons (1977) when she linked transitional Navajo rug designs with oriental rug designs of the same period. These studies examined specific time periods and focused on limited groups of rugs, such as Boles' (1977) study of the design influence by a single trader.

Summary

The review of literature presented in this chapter demonstrates the wide body of knowledge surrounding historical and technical aspects of Navajo weaving. Much of the important literature was contributed by anthropologists
who viewed the weaving from a cultural aspect, while only a limited amount has been contributed by textile historians.
Chapter 3
PROCEDURE

The study was designed to increase knowledge of the contemporary Navajo rug by examining the inter-relationships of the weaver, the trader, and the rug collector. To carry out the purpose of the study, information was obtained from the three groups. The research method was descriptive in which a survey was developed to obtain the data. The organization of the chapter is as follows: 1) preliminary study, 2) the Navajo reservation, 3) sample selection, 4) development of questionnaire, 5) data collection, and 6) data analysis.

Preliminary Study

Based on the review of literature, it was evident that extensive information was available on the historical aspects of the Navajo rug; however, an assessment of contemporary work was needed. Authorities in the field were identified and arrangements were made to consult with selected individuals regarding current problems and to identify resources. Two phases for the preliminary study were carried out.
The first phase of the preliminary study included a trip to Denver and Boulder, Colorado in September of 1981. Dr. Joe Ben Wheat, Anthropology Curator at the University of Colorado, Boulder, a foremost authority in the field of Navajo weaving, was contacted and a meeting arranged. Dr. Wheat was aware of much of the current research being done in the field and was also able to direct the researcher to other individuals who could be helpful. In Denver, Mr. Chip Harrison, who has great interest in Navajo textiles and has worked with Dr. Wheat, was visited. Mr. Harrison made available to the researcher documents and rugs from his collection to be examined.

Two more trips were made in the summers of 1982 and 1983. Contacts were made with individuals in the New Mexico and Arizona areas who had been identified through the literature and through conversations with Dr. Wheat and Mr. Harrison. Information gained from resources visited on the trip made it possible to narrow the focus of the study.

One of the traders visited was Mr. Bruce Burnham of Sanders, Arizona. He is actively involved with Navajo weavers through his family's trading post. His interest in Navajo textiles has led him to speak at the "Shared Horizons" Navajo textile conferences and to become actively involved in the Utah State University Churro sheep program. Mr. Burnham provided information dealing with current problems and the metamorphous facing Navajo weavers and their product.
Traders at four other posts were also interviewed: Teec Nos Pos, Granado, Chinle, and Crystal trading posts. Further insight was gained concerning contemporary problems with the making and marketing of Navajo rugs.

Museum curators at the Hubbell Museum (Arizona) and the Maxwell Museum (New Mexico) were interviewed. The focus of information sought was developed through a series of questions covering a broad base from the review of literature. Discussions with curators further confirmed that concrete data to conduct a historical study was indeed elusive and their knowledge of contemporary problems and changes in Navajo rug weaving and marketing was limited. Insight gained from interviews was used to delineate and formulate specific objectives to focus on contemporary Navajo rugs.

Contacts with traders, weavers, and others who contributed to the study were made in the summer of 1985 at the conference "Wool on a Small Scale" held at the University of Utah in Logan, Utah. The Churro Sheep Project sponsored the conference and many attendees were people with whom the researcher had previously interviewed and corresponded.

The Navajo Reservation

The Navajo Reservation was established by treaty in 1868 (Goodman, 1982, p. 57). Over the course of more than a century much has changed about the reservation despite the strong Navajo sense of tradition and continuity. Changes are
seen in geographic areas and boundaries, administration and political subdivisions, population density, employment patterns, and educational philosophy and facilities.

The reservation was established and remains in the southwestern United States in the south central portion of the Colorado Plateau (Appendix A, Figure 1). The exact boundaries of the reservation are still undergoing change. However, the main portion of the reservation lies within the northeastern part of Arizona. Another portion of the reservation is in the most southeasterly corner of Utah and the final portion is in the northwestern portion of New Mexico. The New Mexico portion consists of one major section adjoining the Arizona portion and then of a "checkerboard" area that encompasses several geographically separate areas (Appendix A, Figure 2) (Goodman, 1982, p. 57). The Navajo Reservation is the largest Indian reservation in the United States and is approximately the size of the state of West Virginia (Goodman, 1982; Boles, personal communication, 1985).

The link between the reservation and the United States government is the Bureau of Indian Affairs. On the reservation the Navajo Nation governs itself through elected officials chosen from the locally organized chapters (Appendix A, Figure 3). The chapter, a basis of political subdivision, grew out of the need for a centrally organized authority on the reservation in the 1920's. The change from the independently organized Navajo clans into a central
authority was the result of the discovery of oil and lands rich in minerals on the reservation. Taking into account the established tribal, state, and federal governmental systems operating on the reservation, it is not surprising that the government is the largest employer on the reservation. Another important system of geographic division on the reservation consists of the land management districts through which grazing and water rights are controlled (Appendix A, Figure 4).

The importance of the chapter system of organization grew as communities built chapter houses and used these as central gathering places for local "town meetings," educational programs, and other events (Goodman, 1982, p. 17). The Navajo Community College, located in Tsaile, often develops workshops and other educational programs to be presented at local chapter houses. This system of taking events to the people has been of major importance since the tradition of not living in communities has remained strong among the Navajo. They continue to live in isolated extended family units that are often inaccessible by modern transportation (Goodman, 1982, p. 63).

Sample Selection

Based on the purpose and objectives of the study, information was needed from three groups: 1) weavers, 2) traders, and 3) Navajo rug collectors. The procedure to
identify the three samples is presented in the following sections.

Weavers

The Navajo Nation was contacted and gave the researcher permission to proceed with the study and directed her to the Navajo Women's Organization for further assistance. Because of the size of the Navajo reservation and the scattered areas of residence of weavers, two geographic areas were identified in which to administer the surveys. The areas were selected because of some degree of organization of the weavers within the areas. The Navajo Women's Organization, which the Navajo Nation created in the summer of 1984, helped in the selection of areas. The newly formed organization was interested in cooperating with the researcher in order to gain some basic information about the women on the reservation who were weavers. Gloria Duus, the head of the Navajo Women's Organization (NWO), was the contact person who assisted in locating the weavers and in the data collection phase on the reservation. Ms. Duus was able to provide interpreters who administered the survey to 25 weavers in the Tsaile area. In addition, she enabled the researcher to establish contact with May Lee of the Ramah District. The weavers in the Ramah area were organized under the leadership of Ms. Lee and were actively working with the NWO to promote Navajo weavers and to improve various aspects of weaving and weaving related
activities. Ms. Lee administered the survey to 59 Ramah weavers. The sample of weavers selected from weavers' groups had been loosely organized by the NWO within the areas of Ramah and Tsaile.

**Traders**

Traders were located with the help of the Bureau of Indian Affairs (BIA). An initial list of businesses licensed by the federal government to engage in commercial enterprise on the Navajo Reservation was obtained from the BIA, Washington D.C. From this list, trading posts were identified and a random selection of 68 posts was made. Since the number of trading posts was rather small, random selection included all but ten percent of the posts on the list.

There are many establishments in the southwest as well as throughout the United States that deal in or sell Navajo rugs. Only those establishments located on the reservation were included in order to obtain a more homogenous sample.

**Rug Collectors**

Serious rug collectors were by far the most difficult groups to locate. Tourists often purchase a single rug on a trip through the southwest and many people obtain a rug through inheritance or by way of a gift, but this was not the type of rug collectors required for the study. Therefore, serious rug collectors needed to be located through some type
of existing network. That existing network was the Shared Horizons Conferences sponsored by Noel Bennett in 1981 and 1984. Lists of past conference participants were used to identify attendees by area of interest, such as weavers and rug collectors. From the list of participants who designated themselves as rug collectors, 57 were randomly selected to receive a questionnaire.

Development Of Questionnaire

The objectives of the study were used as the basis for developing the questionnaires. Each objective was thoroughly examined so that appropriate questions could be derived. In most instances several questions had to be created to meet the specific objective.

Next, parallel sets of questions were developed for each group that was to be surveyed so that opinions and perceptions from the three groups (weavers, traders, and collectors) could be compared in relationship to a specific objective. In addition, some questions developed were intended for only one group and had no meaning for the other groups, such as question 3 on the trader's questionnaire, "Do you feel that your trading post has a specific style of rug design which is representative for the region?" Since neither weavers nor collectors operate trading posts, the question does not apply to these two other groups. Thus, a total of three related, but separate questionnaires were developed (Appendix B).
After questions were developed that met the objectives of the study, other questions were developed that might lend possible insight to the responses of the participants. Typical of questions to gain further insight were: "What is your age? How long have you been weaving? What portion of your Navajo textile collection is contemporary and/or antique textiles? How long have you worked at a trading post?" The questions in this area were developed for the specific group being surveyed. All questions were presented in a straightforward manner; the question structuring was patterned after guidelines presented by Dillman (1978). Special consideration was given to questions on the weavers' questionnaires since many Navajo women have not completed formal schooling; in addition the Navajo culture necessitated specific wording of questions.

Careful attention was given to questionnaire format so that the questionnaires would be both easily read and concisely presented. The questions were organized into groupings according to the objective from which they were derived.

The three questionnaires were distributed to the researcher's graduate committee for review, after which revisions were made. Next, a set of the three questionnaires was mailed to five authorities on Navajo weaving who had previously agreed to review the questionnaires. These authorities included a trader, two college professors and
researchers who have dealt extensively with Navajo weaving, a museum curator dealing with Navajo weaving, and an independent researcher and weaver. Final revisions were made based on the authorities comments and suggestions.

The questionnaires were printed, reduced, copied, and prepared for mailing.

Data Collection

Data collection for the three groups varied in that the questionnaires were mailed to individuals identified as traders and rug collectors, while the questionnaire for the weavers was sent to the two organizations with whom arrangements had been made to collect the data. Members of the Navajo Women's Organization and the Ramah School District contacted the weavers, interpreted, and administered the questionnaire.

A time limit of three weeks was allowed by the researcher for the return of the questionnaires from the traders and collectors. After three weeks, reminder postcards were sent to those who had not yet returned their questionnaires. A second reminder postcard was mailed two weeks after the first postcard to those who had still not responded. The response rate was 32.5% for the collectors and 35.3% for the traders.

The two areas on the reservation selected for the study had a high population density, compared to some areas of the reservation, and a high concentration of weavers: Tsaile and
Ramah. The weavers from the selected areas were actively weaving and were making efforts to improve their craft by hosting workshops on weaving and requesting help from NWO for the advancement of weaving. Neither of the selected areas was known for a previously established regional style of weaving. The director of the Navajo Women's Organization (NWO) was instrumental in gathering data from the weavers. The researcher made arrangements through the NWO to secure interpreters who were knowledgeable in weaving and that were willing to administer the questionnaires to weavers. The two interpreters were then instructed on how to administer the questionnaire. The weaver's questionnaires were administered to weavers of the Tsaile area and a total of 25 weavers responded. Weavers from the Ramah area were surveyed after contact was made with a community planner for the Ramah School District. She had been working with Ramah weavers in an effort to promote quality weaving and to assist weavers in marketing their product. The community planner administered and returned 59 questionnaires from Ramah weavers.

Data Analysis

After the questionnaires were received by the researcher, they were reviewed, coded, and the responses recorded on data sheets. Possible answers that could be predicted were assigned a numerical code; additional responses supplied individually by respondents were recorded and a numerical
code was established for them. Data were then keypunched into the computer so that frequency distributions could be tabulated and chi square tests performed on the data.

Responses to specific questions in each of the three questionnaires were informally examined against responses to other questions within the same questionnaire for possible links between questions.

Responses to similar questions developed from a single objective, but phrased to relate to the specific group, were examined. Question number one on the trader's questionnaire was phrased so that it related to the traders, while the same question was also asked of the weavers and the collectors in a manner that best related to those two groups. Questions asked of each of the three groups were reviewed across all three questionnaires and responses compared.

Key questions were selected and responses examined from each of the three groups. A chi-square analysis was then performed on the question responses in order to test for independence of responses from the groups.

Tables were developed to present the results. The tables were set up in such a manner that results from all three groups could be shown simultaneously. When pertinent, responses from the two weaver groups were presented along with the total for the weavers.

The tabulated results created the basis for a descriptive presentation of data gathered. Significant attributes which
characterized the groups (weavers, traders, or collectors) were sought. Also, meaningful similarities between or among groups were located. Cultural dictates were accounted for and evident trends were noted and recommendations were made.
Chapter 4

RESULTS

A study of Navajo weaving from the 1960's to the current time (mid 1980's) was accomplished through the use of a survey of three groups: 1) Navajo weavers, 2) Navajo reservation trading post traders, and 3) Navajo textile collectors. Findings were based on the response from 133 participants: 84 Navajo weavers, 24 traders, and 25 collectors. In addition, supporting information was gathered through field study and personal interviews with people associated with Navajo weaving.

The information obtained was organized according to the objectives of the study and is presented in the following sequence: description of sample; development of methods and materials used since the mid 1960's; quality indicators; assessment of the contemporary inter-relationship between the weavers, the traders, and the collectors; effect of changes on the weaving industry as perceived by weavers, traders and collectors; impact of changes on the current market system; and strength of the Navajo rug craft industry.
Description Of Sample

Descriptive information about each of the three samples was obtained to assist in interpreting the responses to the questionnaires; the data are located in Appendix C, Tables 1, 2, and 3. It seems logical to begin the description of the three groups with the weaver since the rug begins in her hands, after which descriptions of the trader and collector respondents are presented.

The weavers (n=84) surveyed came from two places on the reservation, Tsaile, Arizona and Ramah, New Mexico (Appendix A, Figure 2). The Ramah area is part of the 'checkerboard' area on the eastern edge of the reservation that is not connected geographically to the main body of the Navajo reservation. Tsaile, on the other hand, is an area within the main part of the reservation and is the location of one of the Navajo Community Colleges. The Tsaile group was actually composed of weavers from approximately a forty mile radius (Duus, personal communication, 1985), making the Tsaile group from a larger geographic region than the Ramah group.

As indicated in Appendix C, Table 1, the Ramah respondents (n=59) clearly had a greater percentage of younger weavers with 39.1% under 45 years of age, whereas, 87.0% of the Tsaile respondents (n=25) were in the 46 to over 65 age range. The majority of weavers from both groups
(78.5%), learned to weave from their mothers or other family members. The Ramah group indicated that they had fewer years of weaving experience than did the Tsaile group, which is not surprising considering the younger age distribution for Ramah. The combined groups (n=84) indicated that 64.3% weave fewer than seven rugs per year. When asked "how much money did you earn for weaving last year", over one-half (59%) of the weavers gave dollar earnings: 51.8% indicated under $2,500 and 7.2% reported a range from $2,600 to $17,000. Other responses were "do not know", "down payment for a pick-up", "not supposed to count money", and "bad luck to count". It should be noted that weaving is usually a seasonal pursuit and comprises only a portion of the total family income.

The traders (n=24) responding to the questionnaire were licensed reservation traders. Most of the respondents were located in the east-central, northeast or southeast sections of the reservation (Appendix A, Figure 2). None of the traders who responded were from the Ramah area; however, some of the traders were in areas near Tsaile. The traders proved to be experienced at their profession as 91.7% of the 24 traders had been trading rugs for longer than 11 years. The other traders (8.3%) had been trading rugs less than 5 years. Two traders (8.2%) were under 35 years of age while the largest single age group ranged in age from 46 to 55 years of age (41.8%) (Appendix C, Table 2). Comments
indicated that many of the traders were continuing a family business established by parents, grandparents, or uncles. At least three-fourths of the surveys included comments from the respondents telling of their own experience as traders and their involvement with the weavers and the rug industry.

The collector respondents (n=25) were the most geographically diverse group being located in nine states (Appendix A, Figure 1). Only 13.0% of the collectors were under 35 years of age (Appendix C, Table 3). The frequency distribution for age was not unusual as younger people generally have less disposable income for non-necessity items. Over one-third of the respondents (36.4%) had collected rugs for 10 to 20 years while less than one-third were either relatively new to Navajo rug collecting and had collected rugs for ten years or less (31.9%) or had collected rugs longer than 21 years (31.7%). Collectors responded that a greater portion of their Navajo textile collection was in rugs dating since the 1960's, rather than either antique textiles dating before 1900 or early 20th century pieces dating 1900 to 1960. Forty-five percent of the collectors indicated that they more often purchased rugs directly from the weavers than from reservation traders. Many of the collectors also wrote personal comments on their surveys expressing great appreciation for Navajo textiles and some offered information beyond that requested on the questionnaire.
Based on the descriptive demographics, certain observations were made. Several authors have stated that Navajo weaving will die out since the weaving tradition is not being passed on to the younger generation (Dedra, 1975, Maxwell, 1963). However, the descriptive findings for the two areas included in the survey, that younger Navajo women are learning the weaving tradition and that they are still learning to weave in the traditional manner, from their mothers or another family member. Thus, the weaving tradition continues to be passed on to the younger family members despite the low financial remuneration. In regard to the traders who responded, most were in the older age brackets, above 46 years of age. Perhaps this is the group that will have to struggle for survival. The collectors who participated were also in the older age brackets; however, the purchase of art objects, such as Navajo rugs, is a diversion requiring the increased income of those in the older age brackets.

Development Of Methods And Materials

Objective one relates to the documentation of developments in the methods of production and the materials used in Navajo rugs since the mid 1960's. A series of questions were developed for the three questionnaires to obtain similar information from respondents: weavers, traders, and collectors. By directing the questions toward
the specific group, allowance was made for members of each group to express their own perceptions to individual questions. In this section, the findings regarding the methods and materials used are presented based on data as shown in Appendix C, Tables 4, 5, 6, 7, 8, 9, and 10.

The dominant fiber used by the weavers, according to sheep breed, was Corridale (36.9%), with Rambouillet (29.8%) and then Columbian or Columbian cross or mix (13.1%) fibers being the second and third most used fibers (Appendix C, Table 4). Churro (6.0%) ranked as the fourth most used fiber, however, a greater percent of the Tsaile weavers (16.0%) used Churro than did the Ramah (1.7%) weavers. Although the Columbian or a Columbian cross or mix was used by the Ramah weavers (18.6%), Tsaile weavers did not indicate the use of this fiber. Other fibers used, as listed by 19.0% of the weavers, included Karabul, Mohair, import, commercial or store bought, or "whatever I could get." Both traders (33.3%) and collectors (24.0%) perceived Corridale to be the most prevalently used fiber; however, the collector frequently responded "do not know" (24.0%).

The literature had indicated that efforts have been made over the years to improve the breeds of sheep and to bring about change in the use of fibers. Less than one-half of the weavers (41.7%) believed that the fiber used had not changed (Appendix C, Table 5). Traders were equally divided as to those who believed weavers had used different fibers in
the past and those who believed that the same fibers were currently in use (29.2% and 29.2%, respectively). More collectors believed that the weavers were currently using different fibers than in the past (32.0%), whereas 24.5% indicated the same fibers were being used. However, 40.0% collectors did not know whether the fiber in use had changed or not.

Hand preparation of the fiber continues to be an important part of the process. Nearly two-thirds of the weavers responded that they hand washed the fiber (63.1%) while 79.8% did hand carding; however, commercial materials were used, such as combed fibers (7.1%) (Appendix C, Table 6). Both traders' and collectors' perceptions were similar regarding the hand processing of fiber preparation. Traders responded that 75.0% of the weavers hand washed and 66.7% hand carded the fiber; however, the use of commercial materials and processes were recognized, such as commercial washing, commercial combing or used commercial roving. Collectors' perceptions of the fiber preparation process were equally divided between three processes: hand washing (52.0%), hand carding (52.0%), and commercial washing (52.0%).

Yarn type and preparation are closely related to fiber preparation (Appendix C, Table 7). If a commercial yarn is chosen, then there is generally little or no fiber or yarn preparation in contrast to the work involved in hand carding/hand spinning. Commercial roving, which is spun into
yarn, needs no fiber preparation. Nearly three-fourths of the weavers (72.6%) responded that hand carded/hand spun yarn were used. The two groups of weavers differed rather dramatically in the use of hand carded/hand spun yarn: 91.5% of the Ramah weavers and 28.0% of the Tsaile weavers. Commercial yarns were used, the extent varying between the two groups (Tsaile 48.0% and Ramah 13.6%). Traders indicated that master weavers prefer hand carded/hand spun yarn (75.0%) to commercial roving/hand spun (25.0%) or commercial yarn (33.3%) (Appendix C, Table 8). Whereas, traders perceived that novice weavers used a little less hand carded/hand spun yarn (62.5%) and somewhat more commercial roving/hand spun (29.2%) and commercial yarn (45.8%). Collectors' opinion concerning yarn preparation was that the use of commercial roving/hand spun, commercial yarn and hand carded/hand spun yarn were similar (56.0%, 52.0%, and 52.0%, respectively).

The changes that have occurred since the 1960's in yarn preparation were examined as perceived by the weavers, traders and collectors. Of the 84 weavers, 62 were weaving in the 1960's. Most of these weavers (67.7%) indicated that they used the same type of yarn preparation method today as in the 1960's while 17.7% indicated that methods had changed (Appendix C, Table 7). Half of the traders believed that some change had occurred in yarn preparation; while 37.5% responded that the fiber was hand carded/hand spun in the 1960's, more of the traders indicated that the method was
used currently for both novice (62.5%) and master (75.0%) weavers (Appendix C, Table 8). A few traders cited an increase in the use of commercial roving/hand spun from the 1960's (20.8%) to the present, novice 29.2% and master weaver 25.0%. They also perceived an increase in the use of commercial yarn from the 1960's (20.8%) to the present. Collectors also perceived that yarn preparation methods had changed. The extent of change was not great for hand carded/hand spun yarn for 56.0% of the collectors believed this method to be more prevalent in the 1960's than currently (52.0%); however, they perceived that the use of commercial roving/hand spun had increased greatly from the 1960's (16.0%) to the current day (56.0%), and that the use of commercial yarn had also increased from the 1960's (20.0%) to the current day (52.0%).

After the yarn has been spun it is dyed. Natural dyes were frequently used among the weavers (78.6%); however, some weavers use commercially dyed yarn (17.9%) or use commercial dyes at home (26.2%) (Appendix C, Table 9). Commercial dyes and natural dyes are often used within a single rug; weavers stated that commercial dyes were used when colors were not available through natural sources on the reservation or if a source was scarce. Traders indicated that master weavers were more likely to use natural dyes (70.8%) or use commercial dyes at home (62.5%) than to use commercially dyed yarn (25.0%) (Appendix C, Table 10). Traders stated that
novice weavers tended to use more commercial dyes at home (62.5%) than natural dyes (45.8%) or commercially dyed yarn (50.0%). Collectors also believed that the use of natural dyes (80.0%) was slightly more prevalent than home use of commercial dyes (68.0%) or than commercially dyed yarn (56.0%). The use of natural dyes is an important method of coloration for Navajo rugs. Kent (1981) discussed the importance of natural dyes that were created from plants indigenous to the southwest and that were fast, that is, resist bleeding; mention was made of the various people who had worked toward dye improvement and locating new natural dye sources.

The current use of dyes was compared to dye usage in the 1960's. Nearly three-fourths of the weavers were weaving in the 1960's and responded to whether changes had occurred in the use of dyes for the yarn of the Navajo rug. The most popular dye method in the 1960's (54.8%) was commercial dye used at home, currently it is less favored (26.2%) (Appendix C, Table 9). Ramah weavers consistently have used more commercial dyes at home both currently (30.5%) and in the 1960's (68.3%) than Tsaile weavers who currently use home commercial dyes less than in the 1960's (16.0% and 28.6% respectively). The second most popular dye method of the 1960's was natural dyeing (38.7%), which today is the most popular (78.6%). Ramah weavers have increased their use of natural dyes from the 1960's to present day (24.4% and 88.1%,
respectively), while fewer of the Tsaile weavers indicated change in their usage of natural dyes from the 1960's to the current day (66.7% and 56.0% respectively). The least popular method of dyeing in the 1960's (3.2%) was commercial dyeing, but today it is used somewhat more (17.9%). The increase in commercially dyed fibers may in part be due to the current availability of commercially dyed roving. The researcher saw quite a variety of colors in stock at some of the trading posts such as Bruce Burnham's at Sanders.

Collectors and traders perceived an increase in the use of commercial dyes at home since the 1960's: collectors 68.0%; traders, by novice weavers 62.5% and by master weavers 62.5%, over usage in the 1960's: collectors 20.0%; traders, by novice weavers 20.8% and by master weavers 29.2% (Appendix C, Table 10). Collectors (80.0%) and traders' perceptions of master weavers (70.8%) also chose home dyeing with natural dyes as the most popular yarn coloration method currently used, 62.5% of traders' noted that novice weavers used commercial dye at home.

In examining responses regarding the methods and materials in current use and those in use in the 1960's, it was evident that there were areas in which the perceptions of the two groups of weavers varied widely. Although both the Tsaile and Ramah weavers agreed that Corridale was the predominant fiber in use, the difference in the use of Churro fiber between the two groups was worthy of note. Churro is
the only breed of sheep that the researcher knows to be currently promoted on the reservation. The Churro Sheep Project is based at Utah State University and is directed by Dr. Lyle McNeal. Dr. McNeal and others from the project have worked with the Tsaile group on several occasions (Duus, personal communication, 1985). Ms. Lee indicated that Ramah weavers had not had the same type of introduction to Churro sheep that Tsaile weavers had experienced (personal communication, 1985).

Concerning fiber and yarn preparation, Tsaile weavers preferred hand carded/hand spun yarns where Ramah weavers were more likely to prefer commercial yarns. One factor that may have influenced this difference was that Tsaile weavers were somewhat older and had been weaving longer than Ramah weavers. Traders indicated that master weavers, who are likely to be older weavers, also preferred hand carded/hand spun yarns. Perceptions on the change in fiber preparation from the 1960's also differed. Weavers perceived little change in fiber preparation, whereas traders and collectors both indicated a greater use of commercial roving/hand spun. Several traders had personally communicated to the researcher that they had sold little or no commercial roving in the 1960's and that currently it was a very popular item of purchase, particularly in natural greys, browns, black and white. The white was the most popular since it could be dyed by either natural dyes or home use of commercial dyes.
Quality Indicators

The second objective of the study pertains to the quality indicators for Navajo rugs in regard to materials, weaving and design. In this section, the findings are presented based on the data as shown in Appendix C, Tables 7, 8, 9, 10, 11, 12, 13, 14, and 15.

Historically, the efforts of traders to improve the quality of Navajo weaving have been well documented (Boles, 1977; Hedlund, 1983; Burnham, 1985). Such efforts included J. B. Moore and J. L. Hubbell, during the early part of the 20th century and the Lippincotts during the mid 1900's. To determine whether traders were continuing their efforts in the development of Navajo rugs, questions were developed for the three groups (weavers, traders, and collectors) in regard to traders giving advice to weavers, and, weavers seeking advice from traders. Traders responded that they still gave advice to weavers in an effort to improve rug quality, with 58.3% responding that they gave advice to novice weavers, whereas, 41.6% gave advice to master weavers (Appendix C, Table 11). Collectors (72.0%) still strongly perceived that traders gave advice to weavers. However, the weavers' response was in reverse of the traders' and collectors' perceptions; 31.0% of the weavers responded that traders did give advice to improve rugs, such as design, color, and size. The two groups of weavers differed in their response; 22.0% of the Ramah weavers and 52.0% of the Tsaile weavers
indicated that they did not receive advice from traders. When asked if they solicited advice from traders, only about one-fourth of the weavers (26.2%) responded that they do seek advice. Again, the two groups differed in their response; 52.0% of the Tsaile weavers stated that they solicited advice while only 15.3% of the Ramah weavers sought advice from the traders.

Advice from traders to weavers may be given in several areas: fiber content, yarn quality, color, design, quality of weaving, size, and price. Traders (58.3%) stated that they gave advice most often on color and both weavers (20.2%) and collectors (60.5%) ranked color as the area of most advice (Appendix C, Tables 12, and 13). Traders indicated that design (50.0%), quality of weaving (45.8%), and yarn quality (41.6%) were other areas for which they most often give advice. Weavers also listed design (15.5%) as the second area of advice but chose fiber content (11.9%) and rug size (8.3%) as other areas in which advice was received. Collectors gave equal ranking to the advice from traders to weavers in the areas of design, quality of weaving, and yarn quality (each at 52.0%). Some weavers (8.3%) also mentioned rug size, but few traders (4.2%) and no collectors responded to this factor.

Only a few materials are actually used in a Navajo rug: the fiber that is processed into yarn and the dye. Therefore, fiber content has been an important quality
indicator. A high quality fiber has been sought by traders; in addition, projects relating to quality of fiber have been undertaken by government experiment stations and independent researchers such as the Churro sheep project at Utah State University (Hedlund, 1983; McNeal, personal communication, 1985). When asked about change in fiber quality, those weavers who had been weaving since the 1960's responded (n=62). Almost two-thirds of the weavers (64.5%) believed that the quality of fiber available had improved since the 1960's by being longer and dryer; response by both Ramah and Tsaile weavers were similar (65.9% and 61.9%) (Appendix C, Table 14). However, some weavers (21.0%) believed that the quality of the fiber had declined since the 1960's, by being shorter, crimped, and greasy. More of the Ramah weavers believed that fiber quality had declined than did Tsaile weavers (29.3% and 4.8% respectively). In addition, about half of the traders (54.2%) and collectors (48.0%) believed that fiber had improved since the 1960's.

The literature indicated that various traders have worked with weavers to encourage the use of hand carded/hand spun yarn in rugs in an effort to produce high quality rugs which then could be marketed for higher prices (Boles, 1977; Rodee, 1979; Burnham, 1985). Hand carded/hand spun yarn and commercial roving/hand spun have been regarded as signs of quality (Boles, personal communication, 1985; Burnham, personal communication, 1985). As indicated in the
discussion of objective one regarding yarn type and preparation (see pages 54-55 and, Appendix C, Tables 7 and 8), weavers' (72.6%) and traders' perceptions of weavers (master 75.0%, novice 62.5%) recognized the impact of hand carded/hand spun yarn. Collectors were not as sure which type of yarn was used in the rugs, as indicated by the nearly equal responses. There was some indication that synthetic yarns were used; only a few of the weavers (1.2%) who responded to the use of 'other' yarns noted synthetic yarn. Substantially more of the traders (33.3%) and collectors (24.0%) responded to the "other" category of yarn, citing synthetic yarns or that they did not know about yarn usage.

The literature indicates that various people have worked toward dye development, including traders and art patrons (Boles, 1977; James, 1976). The use of high quality dyes is important in order for the yarns to retain their color, to prevent the colors from bleeding into one another, and to prevent yarn deterioration. Some of the longest lasting dyes are natural dyes which often take extensive time to locate and prepare as opposed to the easier use of pre-packaged commercial dyes. Natural dyes are also more difficult to control in the dyeing process in order to produce enough evenly dyed yarn needed for a project. As discussed in the section on the development of methods and materials for objective one, and presented in Appendix C, Table 9, and 10, there was agreement among weavers, traders,
and collectors that currently the most used method of yarn
coloration was natural dyes used at home, indicating that
quality dyes were being used currently. Traders' perceptions
of the use of natural dyes varied as to the skill of the
weaver with master weavers being more likely to use natural
dyes. Master weavers were probably more willing to take the
extra time to locate and prepare the dyes in order to obtain
a higher quality weaving. Weavers, traders and collectors
all indicated that commercial dyes used at home and
commercially dyed yarn were also very much in use. Quality
control is more difficult with commercial products since the
weaver would not know the composition of the dye base.

Quality of the material elements within the Navajo rugs
are important since they can affect the weaving technique and
will affect the overall quality of the finished weaving.
When the quality of materials was poor, demand for Navajo
weaving was low. It took the efforts of interested traders,
such as J. B. Moore and J. L. Hubbell, in the early part of
the 20th century to encourage the use of high quality
materials and good weaving techniques in order to
re-establish a quality product and thus Navajo weaving was
once again sought after. Therefore, the following
observations were made concerning quality indicators.
Collectors strongly perceived the trader as nurturing weavers
through the weaving process; traders, too, indicated they
continued to give advice, particularly on color and design.
Weavers, however, did not perceive traders as giving them much advice throughout the weaving process. Tsaile and Ramah weavers differed on amount of advice received; Tsaile weavers stated they received less advice than the Ramah weavers. Although the Tsaile weavers were older and more experienced than the Ramah weavers, it was this group of weavers, the Tsaile, who indicated that they more frequently requested advice from traders than did the Ramah weavers. Responses to fiber quality differed; Ramah weavers were more likely than Tsaile weavers to note a decline in quality since the 1960's. Again, the use of Churro fiber was more prevalent in the Tsaile area.

Although quality can be an elusive ingredient, all three groups responded to questions concerning quality indicators such as fiber, yarn, dye, color, design and weaving technique. Some weavers responded that they often did seek advice in order to improve the quality of their work, indicating that quality was an important factor to them. In reviewing responses to materials used, the respondents indicated that many weavers use high quality materials such as hand carded/hand spun yarn and natural dyes. Quality changes in materials and methods since the 1960's appear to be moderate. Interested organizations and individuals continue efforts toward improvement of quality in the Navajo rug.
Inter-relationships Between Weavers, Traders, and Collectors

The interrelation between weavers, traders, and collectors was the focus of the third objective. Survey questions were developed to stimulate responses dealing with the perceptions of weavers, traders, and collectors concerning their beliefs about themselves and about the other groups. Supporting tables for the findings presented in this section are in Appendix C, Tables 16, 17, and 18.

In the past, weavers have tended to trade exclusively with their local trading post trader where they obtained various groceries and supplies (McNitt, 1962; Hedlund, 1983). However, recent indications are that weavers now travel to several trading posts to sell their rugs, are selling directly to rug collectors, or marketing their rugs in some other manner (Duus, personal communication, 1985; Burnham, personal communication, 1985). Weavers' responses to their trading methods were inconclusive since over one-half of the weavers (58.3%) indicated they did not know if weavers trade exclusively with one trader. Of those expressing an opinion, 26.2% stated that weavers trade exclusively with one trader while 10.7% stated that weavers did not trade with just one trader (Appendix C, Table 16). The two groups of weavers were quite different in their responses for 60.0% of the Tsaile believed that weavers still trade exclusively with one trader, in contrast to 8.5% of the
Ramah weavers. The two groups varied again on the "do not know" response (Tsaile, 12.0% and Ramah, 78.0). In contrast to the high number of weavers who responded "did not know", most of the traders and collectors indicated their perceptions of trading practices. Both traders and collectors did not believe that weavers traded exclusively with one trader (75.0% and 64.0% respectively).

Weavers use various outlets or places to sell their rugs, such as their home, trading posts, and a variety of places off the reservation. As shown in Appendix C, Table 16, when asked if weavers sell their rugs through the same outlets as in the 1960's, 21.4% of the weavers responded "yes" while over one-third responded either "no" or "do not know" (39.3% and 36.9%, respectively). Weavers in each group, Tsaile and Ramah, responded that rugs were sold through the same places as in the 1960's (28.0% and 18.6%, respectively) and some Tsaile and Ramah weavers did not know if rugs were sold through the same places (24.0% and 42.4%, respectively). Observation of the trading process revealed that the trading post traders examined each rug closely. Traders interacted with the weavers while they measured width and length of rug, looked for straight edges, even dyeing, and inspected the various design elements. Personal conversations with a few traders that were actively involved in trying to improve weaving indicated that many of their weavers were no longer loyal to their area trader but instead
drove to several traders and to off-reservation dealers to bargain for the best prices for their rugs. However, two-thirds of the traders' responding to the survey (70.8%), indicated that weavers currently sold rugs through the same outlets as in the 1960's; over one-half of the collectors (52.0%) were of the same opinion.

Traders had indicated to the researcher that the Navajo are more willing to deal directly with the rug collector than in the past. Factors which they noted had lead to the change included the Navajos' increased fluency of English and the high number of Navajo attending schools off the reservation. Eliminating the trader from the transaction would conceivably allow the weaver to earn more money for weavings sold and possibly allow the collector to purchase the rug for less than if it were paid for through the trader. Collectors' responses on direct purchasing from the weaver indicated that a sizeable portion (44.0%) of the collectors did purchase their rugs directly from the weaver (Appendix C, Table 17). Five of the eleven collectors (45.5%) who have purchased rugs from weavers stated that this is the usual method of rug purchase.

Since the establishment of the Navajo reservation, trading post traders have been a vital link between the Navajo and the Anglo (McNitt, 1962). In order to further explore the contemporary relationship between weaver, trader, and collector, questions were posed to ascertain the current
importance of the trader as a link between the Navajo and the Anglo regarding Navajo weaving. Of the three groups, traders (66.7%) perceived themselves, more than the other groups, as exerting a strong influence on Navajo weaving (Appendix C, Table 16). Close to half of the collectors (44.0%) indicated that traders held a strong influence over Navajo weaving but only 33.3% of the weavers concurred. However, almost one-half of the weavers (45.2%) answered "do not know" and many of the weavers' stated that they "could not answer for other weavers" or they expressed "no opinion." Therefore, evidence was not conclusive as to how weavers really perceived the current influence of the trader.

Even in traditional cultures, change is a constant as evidenced by the most recent Navajo - Hopi land dispute and the founding of the new Navajo Women's Organization. Both Ms. Duus (1984 and 1985, personal communication) and Ms. Lee (1985 personal communication) indicated plans to formulate new weavers' associations that would help the Navajo weaver in various ways, from working with the sheep and preparing the fiber to the marketing of the rug. Therefore, the questions concerning the survival of Navajo weaving without the trading post trader seemed pertinent. Weavers (60.5%) believed the strongest of the three groups that Navajo weaving could survive without the trader (Appendix C, Table 16). Fewer traders (37.5%) and collectors (24.0%) responded that Navajo weaving could survive without the trader. The
collectors' response was interesting since 44.0% of the
collectors had responded that they purchased rugs directly
from the weaver.

Data obtained from weavers, traders, and collectors
were further examined using a chi-square analysis of
independence (Appendix C, Table 18). The null hypothesis was
established that responses from the groups, to the three
questions asked, would not be independent of each other.
That is, there would be no difference in the responses from
the three groups. Alternatively stated, specific responses
(beliefs) from each of the three would be distinctive for
that particular group. The questions posed to the three
groups were: 1) Do weavers still sell their rugs at the same
outlets that they sold to in the 1960's. 2) Do traders
currently exert a strong influence over Navajo weaving? 3)
Can Navajo weaving survive without the influence of the
trading post trader?

For the first question (stated as a null hypothesis: there is no difference in the responses by the weavers, traders, or collectors regarding their perceptions as to whether weavers still sell their rugs at the same outlets as in the 1960's), the chi-square test indicated that the null hypothesis could be rejected \( \chi^2 = 41.157, \ df = 4, \ p = .0001 \). The three groups differed less when respondents answered "yes" or that they "did not know." However, the three groups differed more when responding "no", that is,
weavers do not sell their rugs at the same outlets as in the 1960's. Therefore, the alternative hypothesis must be accepted. The three groups did not answer alike but rather had differing perceptions about whether weavers still sell their rugs to the same outlets currently as in the 1960's.

The second question (stated as a null hypothesis: there will be no difference in the responses by the weavers, traders, and collectors as to their perceptions of whether traders exert a strong influence on Navajo weaving), did indicate differing responses between the three groups when analyzed with chi-square ($X^2 = 25.374, df = 4, p = .0001$), rejecting the null hypothesis. The three groups tended to show the greatest amount of difference in their responses when answering "yes" that traders do exert strong influence on Navajo weaving today. Responses to the other categories, "no" or "no opinion" were somewhat more homogeneous.

The last question (stated as a null hypothesis: there will be no difference in the responses by the weavers, traders, and collectors as to their perceptions of whether Navajo weaving can survive without the trader), was also subjected to chi-square analysis. The analysis again, indicated that the groups did respond differently and therefore the null hypothesis was rejected ($X^2 = 18.463, df = 4, p = .0010$). The greatest dissimilarity was found between the three groups when the groups expressed "no
opinion" about whether Navajo weaving could survive without the trader.

Based on the findings concerning the inter-relationships of weavers, traders, and collectors, the Tsaile weavers were more loyal to trading with one trader while Ramah weavers demonstrated their mobility by responding that only a few of them trade exclusively with one trader. Tsaile weavers, as previously noted, were older than Ramah weavers. The Ramah weavers were in an area separate from the main reservation and were more accessible than the Tsaile to larger population areas, such as Gallup, New Mexico. It was interesting to note that twice as many traders as weavers believed that weavers do sell their rugs currently to the same places that they sold to in the past. Although a third of the weavers responded that traders were a strong influence on Navajo weaving, over 45% stated that they did not know about the traders' influence. Comments on many of the surveys marked "do not know" expressed feelings that the weaver could not speak for other weavers, or did not believe she should comment on the "power" of the trader. These types of comments were expressive of the Navajo culture, since the Navajo prefer not to make judgemental type comments. However, the portion of the weavers who were willing to comment believed that weaving could survive without the trader. Enough of the weavers answered "no opinion" that a
conclusive decision about weavers' beliefs could not be reached.

The trader was more protective of his position and only about one-third believed that weaving could survive without them. Traders perceived their service of acting as intermediary between the weaver and collector as indispensable. Of the three groups it was the collector who least felt that weaving could survive without the trader and yet almost half of the collectors had purchased rugs directly from the weavers. Even though the collector seemed to feel that the trader was still a vital link, they were willing to cut the trader out of the transaction, thereby, financially jeopardizing the traders' survival.

When responses were examined statistically, the chi-square test revealed that the three groups differed significantly in their perceptions of the current status and future directions of the Navajo rug industry and the personal inter-relationships that surround it. The researcher perceives that each of the three groups were currently working toward meeting their own interests without totally considering the effects of their actions on the other groups or the ultimate consequences on the rug industry and the rug itself. The weaver was striving to earn more money for her weaving and was thereby willing to eliminate the trader from the transaction, yet the traders' advice was still sought, as well as obtaining weaving supplies through the trader. The
trader was struggling for survival and needing to continue to receive the markup money supplied by the rug trade, yet was not being competitive enough with off-reservation dealers or with collectors to be able to retain the rug trade. The collector wanted to obtain more for his rug dollar, thereby eliminating the trader, yet the collector still valued the guidance of the trader in nurturing the weaver. Thus, the Navajo rug industry appears to be in a state of transition. This transition seems to be having more effect on the inter-relationships of its component members, the marketing of the rug, and on rug design than on the actual continuation of the tradition of weaving or quality of methods or materials used.

**Strengths Of The Navajo Rug Industry**

The focus of the fourth objective was twofold: the effect of changes on the weaving industry and the impact of these changes on the current market system as they influence the strengths of the Navajo rug industry. Questions were developed for the three groups and findings are presented in this section based on data displayed in Appendix C, Tables 19 and 20. Some of the information presented earlier is pertinent and will be related to the fourth objective in this section.

Based on the literature, Navajo weaving has gone through both peaks and valleys in terms of such issues as acceptance by the major culture, use of long lasting quality
materials, and in terms of acculturation by the major Anglo society (Dedra, 1975; James, 1976). Several aspects and strengths have aided in sustaining weaving in the Navajo culture. The tradition of weaving itself was strong enough as to endure the internment period of Bosque Redondo near the end of the 19th century (Wheat, 1976). Sheep and weaving have been intertwined throughout the lives of the Navajo as each generation passes the tradition onto the next generation. Another strength has been a unique loom which affects the final character of the weaving by producing a singular product that has a great deal of structural strength and has been very difficult to counterfeit (Pendleton, 1976). The often intricate regional designs also have been a strength since they created a market demand, thus inspiring weavers to develop the designs to an elevated level; these rugs have been highly sought after by collectors. Other strengths have been the use of natural fibers, hand spun yarns, and natural dyes.

One of the unique qualities of the Navajo rug that has developed over the years has been the regionalism of the rug. This regionalism has been exhibited in varying designs that are readily recognized and associated with specific trading posts from various geographic regions on the reservation (Dedra, 1975; James, 1976; Kent, 1981; Maxwell, 1963; and Rodee, 1977, 1981). In an effort to determine whether regionalism was currently a characteristic of the
Navajo weaving, traders and collectors were asked if trading posts currently dealt in regional style rugs. Almost half of the traders (45.8%) believed that posts still dealt in regional rugs, whereas only 24.0% of the collectors perceived trading posts as dealing in regional rugs (Appendix C, Table 19). Although traders often indicated that posts were currently dealing in regional rugs, only 12.5% of the traders responded that they were currently developing a regional style of rug and even fewer of the collectors (8.0%) perceived traders to be involved in encouraging the development of regional rug styles.

Questions concerning regional rug styles directed toward the weavers involved the use of regional designs within their own weaving. Less than one-third of the weavers (27.4%) stated that they were weaving in a regional style (Appendix C, Table 20). More of the Tsaile weavers responded that they weave in a regional style than did the Ramah weavers (40.0% and 22.0% respectively). However, there was some indication that the weavers were currently working on developing a regional style in their rugs (39.3% of all weavers; 45% Ramah and 24% Tsaile).

Findings for objective four indicated that although for several decades regional style rugs have defined Navajo weaving, the regional design concept was not strongly supported by either traders or weavers. Some of the Tsaile weavers were currently weaving regional designs and several...
of the Ramah group stated that although they had not woven in a regional style, that they were currently developing a regional style in their weaving, but regionalism was not an overriding design force in their weaving. The Tsaile area is within the main of the reservation and is close to some of the regions which are famous for their regional rug designs, such as Chinle, Teec Nos Pos, Crystal and Two Grey Hills. Ramah, on the other hand, is not near the well known rug regions. With less emphasis being given to the regional rug by traders and with less than half of the weavers striving for regionalism in their design, rug design could well be in a state of transition. Several of the weavers commented that they were developing their own designs independent of regional designs.

The Navajo traditions of a pastoral lifestyle centered around family, sheep, and weaving may be changing but certainly are not vanishing as evidenced by the younger group of weavers at Ramah. This cultural context forms a firm foundation for the Navajo rug and currently weavers indicated that they still learn the actual weaving process from their mothers or from family members.
Chapter 5
SUMMARY, IMPLICATIONS, RECOMMENDATIONS

The conclusion to the study on the transition of contemporary Navajo weaving is divided into three parts. A general summary includes a review of the purpose, justification, and method used to guide the study; the findings and interpretation are reviewed briefly. Next, the implication of these findings for the study of the Navajo rug industry are presented. Lastly, recommendations for future research are proposed.

Summary

The study was an investigation into the transition of a native American craft industry, Navajo weaving, during a contemporary period, 1960's to the mid 1980's. It highlights the inter-relationships of the three groups fundamental to the process from production through marketing: the weaver, the trading post trader, and the rug collector. The study was conducted so as to increase the awareness of the contemporary Navajo weaver and contemporary Navajo rug industry. Hedlund (1983) pointed out that studies concerning the contemporary Navajo weaver have been few. The researcher made two preliminary trips to the Navajo reservation to complete background preparation for the study; the trips also
helped in developing the objectives for the study. During the trips contacts were made with traders and weavers. It was apparent that weaving continued to be of economic importance to the Navajo, as cited by Adair (1944), Kent (1961) and Dockstader (1977b, 1978), and that the economic structure of Navajo weaving appeared to be changing. There was a need to determine what the changes were in the economic system and what, if any, affect they were having on the Navajo rug. Therefore, current materials and methods in use for the Navajo rug, as well, the current inter-relationship between the three groups needed to be documented to determine what changes these had undergone in the last two decades.

Four objectives were established to guide the investigation. The research design was based on a combination of descriptive and survey methods. The major portion of the data was collected through use of a survey questionnaire; in addition, interviews were held with weavers, traders, and collectors to gather supporting information.

The sample included Navajo weavers (n=84), traders (n=24), and collectors (n=25). Permission was received from the Navajo Women's Organization (NWO) and the Ramah School Board (RSB) and arrangements made to interview the weavers. Two individuals from the organization conducted the administering of the survey to the weavers. The weavers came from two areas of the reservation: around Tsaile, Arizona, and Ramah, New Mexico. Traders were randomly selected from a
list of licensed businesses established on the Navajo
reservation supplied by the United States government.
Serious rug collectors, as opposed to tourists purchasing
rugs for souvenirs, were somewhat more difficult to locate
since they were a diverse group and were geographically
scattered; however, they were identified and randomly
selected through the existing network of the Shared Horizons
Conferences sponsored by Noel Bennett of Corrales, New Mexico.

Three questionnaires were developed which included
similar questions so that responses from the weavers,
traders, and collectors could be compared. The
questionnaires were reviewed by the researcher's graduate
committee and then sent to five authorities in the field for
evaluation. Appropriate revisions were made and the
questionnaires were then mailed to traders and collectors.
Weavers' questionnaires were sent to the identified persons
at the NWO and RSB to be administered to the weavers.
Responses were coded and frequencies were calculated to
describe and compare respondents' beliefs, attitudes and
behaviors. In addition, chi-square analysis was used to
determine independence of responses for the three groups on
specific key questions.

Descriptive information was also gathered about each
group to assist in interpreting the findings. Descriptive
information demonstrated that responding traders were in the
older age brackets. Collectors also were older, which was
logical as a more established income, that often results amongst older people, generally is required to purchase Navajo weaving. Tsaile weavers were generally older and had been weaving longer than Ramah weavers. The findings are presented according to the stated objectives.

Objective 1). To document developments in methods of productions and the materials used for Navajo rugs since the mid 1960's and to assess the quality of the product in regard to materials, weaving and design.

When responding to the survey, the two weaver groups (Tsaile and Ramah) often varied in their responses. Differences in weavers may have been due to age, skill, or geographic location. The collectors' or traders' responses were often in contrast with weavers' perceptions, such as in the area of yarn preparation. However, all three groups were in agreement concerning fiber used, in that the most used fiber was from the Corridale breed of sheep. Rambouillet was the second most used fiber and Columbian, Columbian/mix fiber was also used. Tsaile weavers currently used more Churro (often known as the old Navajo type sheep) than did Ramah weavers; Tsaile weavers indicated that there had been more improvement in the fiber they used since the 1960's. Opinions were mixed for the three groups as to fiber improvement since the 1960's, so that a clear response did not emerge. Weavers perceived little change in their yarn preparation methods since the 1960's and stated that they
still hand carded/hand spun their yarn; whereas traders and collectors both perceived a greater change in yarn preparation methods since the 1960's. Currently and in the 1960's, the most favored method of yarn coloration by weavers, traders and collectors was the home use of natural dyes.

Findings indicated that not only was the tradition of weaving being passed on to the next generation, but that the tradition was being passed on in the customary manner, generally by the mother or at least by other family members. Observation of apprentices in training with weavers revealed that the training process was mainly non-verbal. The apprentice watched her teacher carefully; when the weaver believed the apprentice was ready, then she was given the opportunity to weave. When mistakes were made, the teacher merely removed the yarn from the woven area and rewove it correctly; all this was done without conversation.

Objective 2). To assess the quality of the product in regard to materials, weaving and design.

Quality of the rug is indicated by the fiber, yarn, dye, color, design and weaving technique. In the past, various people have sought to improve the Navajo rug; some of the most notable efforts have come from the traders who have advised the weaver in ways to improve the quality such as J. B. Moore and J. L. Hubbell (Rodee, 1981). Therefore, questions were posed to the three groups concerning the
trader and weaver relationship as it related to quality indicators. Collectors strongly perceived the traders as guiding the weaver, that is, advising them on such things as color, design, and technique. Traders and weavers responded less strongly to the trader being a guiding force. Among the weavers, Tsaile and Ramah weavers differed in their perceptions of the amount of advice they received and in the amount of advice that they requested from the traders. When traders do help the weaver, the consensus of all three groups was that advice was most frequently sought on color, with design being the next area for advice. All three groups ranked hand carded/hand spun fiber and home use of natural dyes as the most used yarn and yarn coloration options. However, the three groups also indicated some use of commercial fibers and yarns (very few mentioned synthetics) and various commercial dye options.

Objective 3). To assess the relationships among the weavers - traders - collectors of Navajo rugs in terms of their perceptions regarding:
   a) their effect on the weaving industry of the Navajo Nation since the 1960's
   b) the changes which have occurred since the mid 1960's to the current time
   c) the impact of the current market system for Navajo rugs.
Findings concerning the inter-relationships of the three groups produced the most varied responses among the groups. Responses relating to whether weavers deal exclusively with one trader indicated that the three groups perceived that weavers currently deal with more than one trader. However, of the weavers, Tsaile weavers were more likely to deal exclusively with one trader than were the Ramah weavers. The traders have had a strong influence on Navajo weaving throughout the 20th century from both artistic and economic standpoints. Currently, about one-half of the traders and collectors believed that the trader still has a strong influence on Navajo weaving. Weavers, on the other hand, were less likely to perceive traders as being a strong influence on Navajo weaving today.

Concerning the survival of Navajo weaving without the trader, it was the collectors who were least likely to believe that Navajo weaving could survive without the trader. Some of the traders also felt that Navajo weaving would not survive without them, whereas, the weavers tended to give no opinion and of those who did venture an opinion, more felt that weaving could survive without the trader. Even though collectors felt the strongest of the three groups about the trader being a vital force in the Navajo rug industry, almost half of the collectors that responded to the survey indicated that they had purchased rugs directly from the weaver thereby eliminating the trader from the financial
transaction, thus make financial survival for the trader more difficult.

Responses to three questions were submitted to statistical analysis using the chi-square test for independence. The analysis revealed that the three groups differed significantly in their perceptions to three questions that were posed concerning the status and future directions for the Navajo rug industry. Each group appeared to be pursuing its own interests without considering the long term consequences of their behavior upon the other groups involved. In part, the pursuit of self interests may be contributing to the demise of the weaver - trader - collector inter-relationship.

Objective 4). To identify strengths of this craft industry which could be applied to similar industries: production of product, inter-relationship of component members and marketing of product.

The Navajo rug industry has both strengths and weaknesses that must be examined. Four strengths identified in this study are: 1) the place of sheep and weaving in the Navajo culture; 2) the Navajo loom; 3) the use of quality materials; and 4) the regional style rugs.

The position that sheep and weaving hold in the Navajo culture is an underlying factor in the survival of the Navajo rug industry. The lifestyle of the Navajo has been a pastoral one and weaving was a natural element in this
setting. The cultural and religious beliefs regarding creation encompass the "spider woman" who created weaving and gave it to the Navajo (Reichard, 1934). Many Navajo believe that all Navajo women are meant to be weavers and follow in the tradition of weaving.

The actual design of the Navajo loom is a strength since it is possible to produce a textile on it that has no loose warp ends. Textiles from other types of looms have loose warp ends that create a fringe. Thus, because of a unique loom, Navajo rugs are very difficult to counterfeit.

Weavers have continued their use of natural dyes. Most dye sources are native to various areas of the reservation and weavers are able to gather the materials for the dyes. The preferred method of dyeing is at home with natural dyes, a process which allows the weaver more control over the dye process and colors obtained. Another factor in the use of quality materials is the effort which persists to improve flocks of sheep. Work continues toward the re-establishment of a breed of sheep (Churro) that will produce a longer, straighter, less greasy fiber than is produced by other breeds of sheep. Quality fibers for spinning, dyeing and weaving are important in the final product.

Regional styles that have defined Navajo weaving for several decades were also considered. Fewer than one half of the traders dealt in regional style rugs and even fewer traders claimed to be developing a regional style at their
post. More Tsaile weavers wove in regional styles than did Ramah weavers; however, more Ramah weavers were currently trying to develop a regional style in their weaving.

Regional style rugs have been a strength of the rug industry. Each regional rug style has its own distinctive characteristics in addition to the common characteristics of quality Navajo rugs, such as twinning cord edges, spirit paths, no loose warp ends, and many common design elements. Characteristics which distinguish one regional design from another are the design and color elements and the manner in which the design and color elements are used. The regional rug concept has been very popular with collectors. Some collectors collect selections from various regional designs while others prefer to specialize in a collection of just one regional design. Collectors who concentrated on antique blankets and rugs often acquire samples of rugs from various regions.

Certain weaknesses of the Navajo rug industry must be considered: 1) the possible loss of the trader from the rug marketing system; and 2) a possible weakening of the regional rug styles. The trader has long provided continuity in the guidance of weavers and the rug industry in return for economic gain. Without the trader the provision of continuous, reliable guidance may not be available for the weaver. The weaver would be left to look for guidance from family members and fellow weavers who may have little
information as to market conditions and demands. Workshops and educational programs could fill only part of the guidance gap unless directors of these entities have current exposure to the marketing process. Off-reservation dealers are another alternative. If these dealers are willing to buy the early efforts of beginning weavers and establish an on-going personal interest in helping them to develop their products, then perhaps this guidance gap can be filled. Current trends on the reservation of in-house interest in Navajo weaving by the Navajo Women's Organization and the Ramah School Board may also be entities to fill the gap.

The other weakness results from weavers who are not weaving regional styles and are not interested in developing regional styles. If the regional style rug loses favor with weavers, strong new directions in weaving will be needed in order to hold the interest of collectors.

The strengths of Navajo weaving would have to be carefully considered in relationship to the particular craft industry being examined. For instance, determinations of other craft industries would have to be made as to the tradition of the craft within the culture. How is the craft passed from generation to generation? What organizations or patrons are willing to encourage a craft to flourish? What type of marketing system is currently available or in operation for the craft industry? Are the methods of craft production or marketing parallel to that of the Navajo rug
craft? Once a culture and the craft have been thoroughly
examined then determination could be made as to those aspects
of the Navajo rug industry which could be applied.

Implications

This study was based on the need to investigate the
Navajo rug industry to document changes occurring in methods
and materials, and explore the inter-relationships that have
provided the framework for the market system for the rugs.
The results of the research on the Navajo rug industry add to
the understanding of the current Navajo rug industry, as well
as raise further questions and thus provide implications for
continuing inquiry.

Findings were based on observations and interviews and
on the survey data obtained from three groups; the weaver,
the trader, and the collector. The weaver group consisted of
two groups of weavers from two different areas of the Navajo
reservation. These groups often varied in their opinions and
were also different in their descriptive profiles. Tsaile
weavers were found to be older and more experienced weavers
than Ramah weavers. Tsaile weavers also used more Churro
wool, from the old type sheep, and were more likely to weave
regional style rugs than were Ramah weavers. However, Ramah
weavers were more interested in developing regional rug
styles in their weaving than were the Tsaile weavers.
The differences between these two groups highlight the importance of not making sweeping generalizations for all Navajo weavers based on just one group of weavers. Hedlund cautiously points out in her study that it involved a single Navajo community (1983, p. 329). Other works on Navajo weaving have not always noted that characteristics common of one area or one group of weavers may not be common throughout the reservation (Dedra, 1975; James, 1976; Maxwell, 1963;).

In the present study, the traders who responded may or may not have come into contact with the weavers who responded. The traders did come from various parts of the reservation, thus providing information from many areas rather than one area. However, there was not a trader responding from the Ramah area and traders responding from the central eastern region of the reservation were not specifically from Tsaile, Arizona. The collectors who responded came from throughout the United States; however, the greater portion of the collectors lived in the southwestern United States. These collectors, again, may or may not have come into contact with either the traders or the weavers who also responded to the survey. Therefore, the responses from the groups were specific to their own experiences and may not be based on dealings with other survey respondents.

The results of the study demonstrated that traditional materials and methods continue to be used from the 1960's to
the mid 1980's. The traditional materials were still used and prepared by traditional methods. The changes which have come about were in the preparation work; for instance, some of the steps in the weaving process were being completed by someone other than the weaver. Another change indicated by all three groups was an increase in use of commercial roving for hand spun yarn. The weavers continue to use traditional materials but often have the materials commercially processed, thus associations such as the Navajo Women's Organization have been interested in establishing commercial fiber preparation works. The dyeing process, whether completed by the weaver or not, continues to make use of natural dyes and there was little indication of change to other types of yarn coloration.

The quality of materials appears to be maintained from the 1960's; however, the quality of sheep fiber, according to some Tsaile weavers, has improved since the 1960's. Tsaile was an area where the Churro sheep project has been in operation. The Tsaile weavers indicated a greater use of Churro fiber than did the Ramah weavers. The long, dry fiber of the Churro sheep is often prized for its qualities and efforts are underway to re-establish this breed in greater number on the reservation. A Churro breeding program has recently been started at Ramah and plans for a Churro sheep workshop are underway for fall 1986 (Lee, personal communication, 1986). As the Churro Sheep Program becomes
better known throughout the reservation and with collectors, it is likely that fiber quality will gradually become better as the number of Churro increase in Navajo flocks. In part, this will also depend upon the patronization of collectors as it is an expensive process to maintain a genetic pool of sheep for the reintroduction of these sheep into the reservation.

In this study, it became evident that the well established inter-relationships between the weaver, the trader, and the collector were breaking down. In the past, the market system for Navajo rugs has been built upon this inter-relationship. Therefore, marketing changes are currently underway. The ever-present pickup truck enables the weavers to take their trade off the reservation to area dealers. When trade transactions were observed between traders and weavers, it was the younger weavers who sometimes did not close the trade transaction with the trader. The demeanor of the older weavers was more accepting of the opinions of the trader and they were willing to close the transaction with the rug being exchanged for cash, trade, or applied to a weaver's account. The only weavers observed that actually did not close the trade transaction and took their rugs elsewhere were younger weavers. These younger weavers appear to be reflecting the changes which are occurring in the marketing system. Traders have expressed concern over this change, however, the trend is unlikely to cease.
Another phenomenon that was relevant was the age of the traders; there were very few younger traders responding to the survey. One trader, who was under 30 years of age at the time of this survey, had recently purchased a trading post where a regional rug had been developed that was considered to be one of the finest woven on the reservation throughout the 1960's and 1970's (James, 1976). However, in the late 1970's, this trading post had changed hands and went into a period where less emphasis was given to the regional rugs during the late 1970's and early 1980's. This particular trader's success in re-establishing the trading post as an important link in the area marketing process will be important to observe. Not only is the trading post trader generally older, but he is also facing a declining rug trade from standpoint of both supply and demand. Thus, it appears that this is the group that may be facing extinction.

The weavers who responded to the survey indicated that they generally received less than $2,500 annually for their weaving. Gould (1982) spoke of the below-subsistence level earnings of many weavers and the need to increase compensation as an encouragement to attract young Navajo to become weavers. Weavers are demonstrating their interest in gaining more money for their work by various means, such as by dealing with several traders, by going off the reservation to sell their rugs, by selling their rugs directly to collectors, and by becoming involved with various
associations. The Navajo Women's Organization and community
improvement groups such as the Ramah School Board are seeking
new outlets and markets for Navajo weaving. As weavers gain
in education and sophistication, the trend toward marketing
their own rugs is likely to increase.

The collector saw the trader as an important link in
the marketing process and yet was willing to "hogan hop",
that is, to purchase rugs directly from the weaver and cut
the trader out of the transaction. One rug collector and
dealer stated that Navajo rug collectors are intensely
interested in their rug collections and in the Navajo rug.
Collectors appear to be making efforts to be directly
involved in Navajo weaving by attending conferences with the
traders and the weavers, thereby increasing their contacts
with the weavers. This increased involvement and association
with weavers may have a further damaging effect on the
survival of the trader.

With the possible breakdown of the traditional
marketing system some questions arise, such as the future
guidance of the weaver. Will the government, the educational
systems, and other associations take the place of the trader
in nurturing the weavers? Will the weaving process be
further divided so that division of labor in preparation of
fiber, yarn, dyes and the weaving, eventually lead to further
specialization extending into the marketing aspects?
Recommendations For Research

Based on the findings and implications of this study, some recommendations for future inquiry are suggested. The scope of this study was intended to involve only the licensed trading post trader. However, the off-reservation rug dealer is also an outlet for the sale of Navajo rugs. There is little to be found in the literature about the influence of these dealers except for C. N. Cotton who was closely associated with J. L. Hubbell in the early 20th century (Boles, 1977; Williams, 1977). Investigation into the current influence of the off-reservation dealer would add another dimension to knowledge regarding the marketing of the Navajo rug.

There is interest in Ramah in developing a rug style for the area and in improving fiber quality for the rugs (Lee, personal communication, 1986). Therefore, research possibilities exist to determine design and color elements, as well as techniques, that might be unique to Ramah area. Examination of individual Ramah weavers would also yield information as to any unique Ramah dye sources and methods, fiber sources and preparation methods, and information as to the division of the weaving processes within the Ramah area.

More knowledge about weavers from all areas of the reservation is needed. If associations such as the Navajo Womens' Organization are to be successful in their efforts to
offer assistance to weavers, then data needs to be gathered concerning the various educational, governmental, and private groups or individuals that are carrying on weaving or rug marketing efforts so as to be able to make a careful reservation wide analysis as to what is currently available. Efforts should then be made to discover the needs of the weavers throughout the reservation and how these needs may differ. Once preliminary investigation of this type has been accomplished, the tasks of planning programs can begin so there will be no duplication of efforts. Such programs might be in all areas related to weaving, from fiber to finished product; setting up commercial washing and combing mills or dye works; and in creating sheep improvement aids, such as chapter wide genetic pools for various breeds of sheep.

The trading post trader need not be neglected; reservation posts currently dealing in rugs as well as nearby, off reservation dealers should be investigated. Traders at reservation posts who currently deal in rugs, as well as off-reservation outlets, should be documented. Off-reservation dealers should be assessed as to the type and amount of guidance that they give to weavers. A listing of commercial outlets as well as schedule of rug auctions would assist weavers in selling their rugs. Other information as to the recent rug history at individual posts and an accounting of the types of weaving supplies available and sold would increase the knowledge concerning the trader.
The Navajo weaver and the trading post trader both are in need of assistance by qualified researchers in order that they best evaluate current information and explore future options that are available concerning the continuation and development of Navajo weaving.
APPENDIX A

Figures
Figure 1 Western United States with Navajo Reservation Areas
Figure 2 The Navajo Reservation
Figure 3 Nav
Adapted From:
Figure 4 Agencies and Land Management Dist
Figure 4 Agencies and Land Management Districts
APPENDIX B

Survey Questionnaires for Weavers, Traders, and Collectors
QUESTIONNAIRE - NAVAJO WEavers

I am wondering about your involvement with the traders that you sell your rugs to. For each question please circle your choice; also specify other responses when possible.

Q-1. Do you sell your weavings at more than one trading post? (Circle number of your choice).

1. YES
2. NO
3. DO NOT SELL TO A TRADING POST

If YES, how many trading posts have you sold weavings to in the past two years? (Specify)

If NO, what is the name of the trading posts where you sell weavings?

Q-2. Do you weave a specific regional style rug that is representative of an area of the reservation? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, which regional style do you weave? (Specify)

If NO, why not? (Specify)

1. WEAVING IN OWN ORIGINAL STYLE.
2. WEAVING IN FAMILY STYLE
3. OTHER

Q-3. Are you presently trying to develop a regional style of rug design in your own weaving? (Circle)

1. YES
2. NO
3. NOT INTENTIONALLY

Q-4. Where did you learn to weave? (Circle)

1. MOTHER / FAMILY MEMBER
2. COMMUNITY COLLEGE
3. OTHER (Specify)
Q-5. Do (does) the trader(s) ever make suggestions to you regarding the rugs you weave? (Circle)

1. YES
2. NO

Q-6. If the trader(s) do make suggestions to you regarding your rugs, please indicate the areas: (Circle)

1. FIBER CONTENT (WOOL)
2. YARN QUALITY
3. COLOR
4. DESIGN
5. QUALITY OF WEAVING
6. OTHER (SPECIFY)

Q-7. Do you ever ask the traders what rug designs sell the best? (Circle)

1. YES
2. NO

If YES, do you try to weave these designs so your rugs will sell faster? (Circle)

1. YES
2. NO

I am also wondering about your wool and how you prepare it.

Q-8. What is the predominate type of sheep fiber that you use? (Circle)

1. CORRIDALE
2. CHURRO
3. RAMBOUILLET
4. OTHER (SPECIFY)

Q-9. How long have you been using the kind of wool (Churro, Rambouillet, Corridale, Other)

Q-10. Have you ever used any other type of wool? (Circle)

1. YES
2. NO
If YES, please specify type (Circle).

1. CORRIDALE
2. CHURRO
3. RAMBOUTILLET
4. OTHER (SPECIFY)______________________________

Q-11. When did you use this other wool, that is during which years? (Specify)

Q-12. Do you believe that the quality of wool you now use is better than the quality of wool you used in the mid 1960's?

1. YES - LONGER & DRYER
2. NO - SHORTER, CRIMPY, THIN, GREASY
3. DO NOT KNOW
4. WAS NOT WEAVING THEN

Q-13. How do you prepare the wool that will be spun into yarn? (Circle)

1. HAND WASH
2. HAND CARD
3. COMMERCIALLY WASHED
4. COMMERCIALLY COMBED
5. OTHER (SPECIFY)______________________________

Now I am wondering about the yarn and the dying of the yarn.

Q-14. What type of yarn do you use in your weaving? (Circle)

1. COMMERCIAL YARN
2. HAND SPUN YARN FROM HAND CARDED FIBER
3. HAND SPUN YARN FROM COMMERCIAL ROVING (WOOL TOP)
4. OTHER (SPECIFY)______________________________

Q-15. Did you use this same type of yarn in the mid 1960's? (Circle)

1. YES
2. NO
3. WAS NOT WEAVING THEN
If NO, what type of yarn did you use in the mid 1960's? (Circle)

1. COMMERCIAL YARN
2. HAND SPUN YARN FROM HAND CARDED FIBER
3. HAND SPUN YARN FROM COMMERCIAL ROVING
4. OTHER (SPECIFY)

Q-16. How do you color your yarn? (Circle)

1. COMMERCIALY DYED YARN
2. HOME USE OF COMMERCIAL DYES FROM THE TRADERS
3. HOME USE OF NATURAL DYES - PLANT DYES
4. OTHER (SPECIFY)

Q-17. How did you color your yarn in the mid 1960's? (Circle)

1. COMMERCIALY DYED YARN
2. HOME USE OF COMMERCIAL DYES FROM THE TRADERS
3. HOME USE OF NATURAL DYES - PLANT DYES
4. OTHER (SPECIFY)
5. WAS NOT WEAVING THEN

I am also wondering about the selling of Navajo Rugs.

Q-18. Do you believe that Navajo weaving as a strong economic force could survive without the trading post trader? (Circle)

1. YES
2. NO
3. HAVE NO OPINION

Q-19. Do weaver sell their rugs through the same place(s) (trading posts, auction, directly to buyers, etc.) that they sold to in the mid 1960's (Circle)

1. YES
2. NO
3. DO NOT KNOW

If NO, please indicate where weavers sell their rugs at present and in the mid 1960's? (Circle)

PRESENT				MID 1960'S
1. TRADING POST	1. TRADING POST
2. RUG AUCTIONS	2. RUG AUCTIONS
3. DIRECT TO BUYER	3. DIRECT TO BUYER
Q. 20. Do you believe that traders, in general, exert a strong influence or power on Navajo weaving today? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, in what areas do they exert influence? (Circle)

1. MATERIALS
2. RUG DESIGNS
3. UPGRAADING RUG QUALITY
4. GUIDING INDIVIDUAL WEavers
5. STIMULATING THE RUG MARKET
6. OTHER (SPECIFY)

Also, I am wondering about you.

Q-21. What is your age? (Circle)

1. UNDER 25
2. 26 - 35
3. 36 - 45
4. 46 - 55
5. 56 - 65
6. OVER 65

Q-22. How long have you been weaving? (Please indicate in number years)

Q-23. How many rugs do you weave a year? (Please indicate in number)

Q-24. What size of rug do you usually weave?

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.
Listed below are some questions about Navajo Weavers and the trading posts. For each question please circle the number of your choice; also specify other responses when possible.

Q-1. Do you believe that weavers usually trade exclusively at one trading post? (Circle the number of choice)

1. YES
2. NO
3. DO NOT KNOW

If NO, what percent of weavers do you believe usually trade at the trading post nearest their home? (Circle)

1. UNDER 25%
2. 25 - 50%
3. 50 - 75%
4. 75 - 100%
5. DO NOT KNOW

Q-2. Do you believe that most trading posts still deal in specific regional rug designs? (Circle)

1. YES
2. NO

Q-3. Are most trading post traders currently developing specific regional rug designs? (Circle)

1. YES
2. NO
3. DO NOT KNOW

Q-4. Where do most Navajo weavers learn to weave? (Circle)

1. MOTHER/FAMILY MEMBER
2. COMMUNITY COLLEGE
3. OTHER (SPECIFIC) _______________________

Q-5. Do you believe most traders make suggestions about the rugs to the weavers who trade at their post? (Circle)

1. YES
2. NO
3. DO NOT KNOW

Q-6. In what areas do you believe traders make suggestions to the weavers? (Circle)
1. FIBER CONTENT
2. YARN QUALITY
3. COLOR
4. DESIGN
5. QUALITY OF WEAVING TECHNIQUES
6. OTHER (SPECIFY)

Q-7. Do you believe that weavers solicit advice from the traders concerning their rugs? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, please indicate what percent of weavers solicit advice.

1. UNDER 25%
2. 25 - 50%
3. 50 - 75%
4. 75 - 100%

The following questions pertain to fiber preparation.

Q-8. What is the predominate type of sheep fiber in use today? (Circle)

1. CORRIDALE
2. CHURRO
3. RAMOBOUILLET
4. OTHER (SPECIFY)

Q-9. Has the type of sheep fiber used changed since the mid 1960's? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, how has it changed? (Circle)

1. MORE CHURRO SHEEP FIBER USED
2. LESS CHURRO SHEEP FIBER USED
3. MORE RAMOBOUILLET SHEEP FIBER USED
4. LESS RAMOBOUILLET SHEEP FIBER USED
5. MORE CORRIDALE SHEEP FIBER USED
6. LESS CORRIDALE SHEEP FIBER USED
7. OTHER (SPECIFY)
Q-10. Do you believe that the quality of wool used in the rugs since the mid 1960's has improved? (Circle)

1. YES  
2. NO  
3. DO NOT KNOW

If YES, how has it improved?

1. CLEANER  
2. LESS GREASE  
3. FINER FIBER  
4. LONGER FIBER  
5. OTHER (SPECIFY)

Q-11. How do the weavers prepare the fiber that will be spun into yarn? (Circle)

1. HAND WASH  
2. HAND CARD  
3. COMMERCIALY WASHED  
4. COMMERCIALY COMBED  
5. OTHER (SPECIFY)

The next questions refer to the yarn and the dying of the yarn.

Q-12. What type of yarn do the weavers use in their weaving? (Circle)

1. COMMERCIAL YARN  
2. HAND SPUN YARN FROM HAND CARDED FIBER  
3. HAND SPUN YARN FROM COMMERCIAL ROVING (WOOL TOP)  
4. OTHER (SPECIFY)

Q-13. Does this practice differ from the practice of yarn preparation used in the mid 1960's? (Circle)

1. YES  
2. NO  
3. DO NOT KNOW

If YES, which yarn was used in the mid 1960's?

1. COMMERCIAL YARN  
2. HAND SPUN YARN FROM HAND CARDED FIBER  
3. HAND SPUN YARN FROM COMMERCIAL ROVING (WOOL TOP)  
4. OTHER (SPECIFY)  
5. DO NOT KNOW
Q-14. What methods(s) do weavers use to color their yarn?

1. COMMERCIAL DYED YARN
2. HOME USE OF COMMERCIAL DYES
3. HOME USE OF NATURAL DYES
4. OTHER (SPECIFY)__________________________

Q-15. Have the method(s) of coloring yarn changed since the mid 1960's?

1. YES
2. NO
3. DO NOT KNOW

If YES, please indicate method(s) used in the mid 1960's. (Circle)

1. COMMERCIAL DYED YARN
2. HOME USE OF COMMERCIAL DYES
3. HOME USE OF NATURAL DYES
4. OTHER (SPECIFY)__________________________

These questions relate to the actual marketing of the Navajo rug.

Q-16. Do you believe that Navajo weaving, as a strong economic force, could survive without the trading post trader? (Circle)

1. YES
2. NO
3. HAVE NO OPINION

Q-17. Do weavers sell their rugs through the same place(s) (trading posts, rug auctions, directly to rug collectors, etc.) that they sold to in the mid 1960's? (Circle)

1. YES
2. NO
3. DO NOT KNOW

Q-18. Do you believe that trading post traders in general exert a strong influence over Navajo weaving today? (Circle)

1. YES
2. NO
3. DO NOT KNOW
If YES, in what areas do they exert influence? (Circle)

1. MATERIALS USED
2. RUG DESIGNS USED
3. UPGRADING WEAVING TECHNIQUES USED
4. GUIDING INDIVIDUAL WEAVING
5. STIMULATING THE RUG MARKET
6. OTHER (SPECIFY)

Q-19. Do you buy your rugs through a trading post? (Circle)

1. YES (SPECIFY POST)
2. NO
3. OTHER (SPECIFY)

Q-20. Have you ever purchased rugs directly from the weavers? (Circle)

1. YES
2. NO

If YES, is this the usual manner in which you purchase rugs for your collection?

1. YES
2. NO

Finally, I would like to ask you a few questions, about yourself to help interpret the results of this questionnaire.

Q-21. What is your age? (Circle)

1. UNDER 25
2. 25 - 35
3. 36 - 45
4. 46 - 55
5. 56 - 65

Q-22. How long have you been collecting Navajo rugs? (Indicate number of years)

Q-23. What proportion of your Navajo textiles are contemporary rugs and/or antique textiles?

<table>
<thead>
<tr>
<th>ANTIQUE (1900 - 1960)</th>
<th>CONTEMPORARY (1900 - 1960)</th>
<th>CONTEMPORARY (SINCE 1960)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDER 25%</td>
<td>UNDER 25%</td>
<td>UNDER 25%</td>
</tr>
<tr>
<td>25 - 50%</td>
<td>25 - 50%</td>
<td>25 - 50%</td>
</tr>
<tr>
<td>50 - 75%</td>
<td>50 - 75%</td>
<td>50 - 75%</td>
</tr>
<tr>
<td>75 - 100%</td>
<td>75 - 100%</td>
<td>75 - 100%</td>
</tr>
</tbody>
</table>
THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.

PLEASE PUT COMPLETED QUESTIONNAIRE IN RETURN MAIL TODAY.
QUESTIONNAIRE -- TRADING POST TRADERS

Listed below are some questions about your involvement with Navajo weavers who trade their rugs at your post. For each question please circle the number of your choice; also specify other responses when possible.

Q-1. What is the approximate number of weavers that you trade with on a consistent basis over the past year? (Circle number of choice)

1. 0
2. 1 - 5
3. 6 - 10
4. 11 - 15
5. 16 - 20
6. MORE THAN 20 (SPECIFY)_____________________________

Q-2. If a weaver trades with you does she usually trade 100% of her rugs with you? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If NO, what is the average percent of rugs traded with you by your best weavers? (Circle)

Q-3. Do you feel that your trading post has a specific style of rug design which is representative for the region? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, please specify style name:__________________________

Q-4. Are you presently working toward developing a regional style rug design? (Circle)

1. YES
2. NO
3. NOT INTENTIONALLY

Q-5. Where do most of the weavers that trade their rugs at your post learn to weave? (Circle)
1. MOTHER / FAMILY MEMBER
2. COMMUNITY COLLEGE
3. OTHER (SPECIFY)

PLEASE INDICATE WHAT % of weavers learn from those sources. (Check)

MOTHER/FAMILY MEMBER    COMMUNITY COLLEGE    OTHER

LESS THAN 25%     LESS THAN 25%     LESS THAN 25%

25 - 50%         25 - 50%         25 - 50%

50 - 75%         50 - 75%         50 - 75%

75 - 100%        75 - 100%        75 - 100%

Q-6 Do you make suggestions to the weavers who trade rugs at your post, regarding the rugs they weave? (Circle)

NOVICE WEAVER    MASTER WEAVER

1. YES
2. NO
3. ON A REGULAR BASIS

Q-7. If you do make suggestions to your weavers, please indicate the areas in which you make suggestions: (Circle)

1. FIBER CONTENT
2. YARN QUALITY
3. COLOR
4. DESIGN
5. QUALITY OF WEAVING TECHNIQUES
6. OTHER (SPECIFY)

Q-8. Do the weavers you trade with solicit your advice on their weaving? (Circle)

1. YES
2. NO

If YES, please indicate the percent of weavers that solicit your advice in the spaces provided.

NOVICE WEAVERS    MASTER WEAVERS

LESS THAN 25%     LESS THAN 25%

25 - 50%         25 - 50%

50 - 75%         50 - 75%

75 - 100%        75 - 100%
The following questions pertain to fiber and fiber preparation.

Q-9. What is the predominate type of sheep fiber used? (Circle)

1. CORRIDALE
2. CHURRO
3. RAMBOUILLET
4. OTHER (SPECIFY)

Q-10. Has the type of sheep fiber used changed since the mid 1960's? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, how has it changed? (Circle)

1. MORE CORRIDALE SHEEP FIBER USED
2. LESS CORRIDALE SHEEP FIBER USED
3. MORE CHURRO SHEEP FIBER USED
4. LESS CHURRO SHEEP FIBER USED
5. MORE RAMBOUILLET SHEEP FIBER USED
6. LESS RAMBOUILLET SHEEP FIBER USED
7. OTHER (SPECIFY)

Q-11. Do you believe that the quality of wool used in the rugs since the mid 1960's has improved? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, how has it improved? (Circle)

1. CLEANER
2. LESS GREASE
3. FINER FIBER
4. LONGER FIBER
5. OTHER (SPECIFY)

Q-12. How do the weavers prepare the fiber that will be spun into yarn? (Circle)

1. HAND WASH
2. HAND CARD
3. COMMERCIALY WASHED
4. COMMERCIALY COMBED
5. OTHER (SPECIFY)
The next questions refer to the yarn and the dying of the yarn.

Q-13. What type of yarn do weavers use in their weaving? (Circle)

<table>
<thead>
<tr>
<th>NOVICE WEAVERS</th>
<th>MASTER WEAVERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. COMMERCIAL YARN</td>
<td>1. COMMERCIAL YARN</td>
</tr>
<tr>
<td>2. YARN SPUN FROM HAND CARDED FIBER</td>
<td>2. YARN SPUN FROM HAND CARDED FIBER</td>
</tr>
<tr>
<td>3. YARN SPUN FROM COMMERCIAL ROVING (WOOL TOP)</td>
<td>3. YARN SPUN FROM COMMERCIAL ROVING (WOOL TOP)</td>
</tr>
<tr>
<td>4. OTHER (SPECIFY)</td>
<td>4. OTHER (SPECIFY)</td>
</tr>
</tbody>
</table>

Q-14. Does this practice differ from the method of yarn preparation used in the mid 1960's? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, which yarn was used in the mid 1960's? (Circle)

<table>
<thead>
<tr>
<th>NOVICE WEAVERS</th>
<th>MASTER WEAVERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. COMMERCIAL YARN</td>
<td>1. COMMERCIAL YARN</td>
</tr>
<tr>
<td>2. YARN SPUN FROM HAND CARDED FIBER</td>
<td>2. YARN SPUN FROM HAND CARDED FIBER</td>
</tr>
<tr>
<td>3. YARN SPUN FROM COMMERCIAL ROVING (WOOL TOP)</td>
<td>3. YARN SPUN FROM COMMERCIAL ROVING (WOOL TOP)</td>
</tr>
<tr>
<td>4. OTHER (SPECIFY)</td>
<td>4. OTHER (SPECIFY)</td>
</tr>
<tr>
<td>5. DO NOT KNOW</td>
<td></td>
</tr>
</tbody>
</table>

Q-15. What method(s) do the weavers use to color their yarn? (Circle)

<table>
<thead>
<tr>
<th>NOVICE Weaver</th>
<th>MASTER WEAVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. COMMERCIALY DYED YARN</td>
<td>1. COMMERCIALY DYED YARN</td>
</tr>
<tr>
<td>2. HOME USE OF COMMERICAL DYES</td>
<td>2. HOME USE OF COMMERICAL DYES</td>
</tr>
<tr>
<td>3. HOME USE OF PLANT DYES</td>
<td>3. HOME USE OF PLANT DYES</td>
</tr>
<tr>
<td>4. OTHER (SPECIFY)</td>
<td>4. OTHER (SPECIFY)</td>
</tr>
</tbody>
</table>

Q-16. Have the method(s) of coloring yarn changed since the mid 1960's? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, please indicate the methods used in the mid 1960's. (Circle)
These questions relate to the actual marketing of the Navajo rug.

Q-17. Do you believe that Navajo weaving as a strong economic force could survive without the trading post trader? (Circle)

Q-18. Do weavers sell their rugs through the same place(s) (trading posts, auctions, directly to consumers, etc.) that they sold to in the mid 1960's? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If NO, please indicate how this has changed. (Circle)

PRESENT MID 1960'S

1. TRADING POST
2. RUG AUCTIONS
3. DIRECT TO RUG CONSUMER
4. OTHER (SPECIFY)____________________

Q-19. Do you believe that trading post traders in general exert a strong influence over Navajo weaving today? (Circle)

1. YES
2. NO
3. DO NOT KNOW

If YES, in what areas do they exert influence? (Circle)

1. MATERIALS USED
2. RUG DESIGNS USED
3. UPGRADING WEAVING TECHNIQUES
4. GUIDING INDIVIDUAL WEavers
5. STIMULATING THE RUG MARKET
6. Other (SPECIFY)____________________

Finally, I would like to ask you a few questions about yourself to help interpret the results of this questionnaire.
Q-20. What is your age? (Circle)

1. UNDER 25
2. 25 - 35
3. 36 - 45
4. 46 - 55
5. 56 - 65

Q-21. How long have you worked at a trading post? (Please indicate number of years)

Q-22. How long have you been a licensed trader? (Please indicate number of years)

Q-23. How long have you been trading Navajo rugs? (Please indicate number of years)

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.

PLEASE PUT COMPLETE QUESTIONNAIRE IN RETURN MAIL TODAY.
TABLE 1

Frequency Distribution For Descriptive Information About The Weavers

<table>
<thead>
<tr>
<th>Items</th>
<th>Tsaile Weavers</th>
<th>Ramah Weavers</th>
<th>Total Weavers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 25</td>
<td>-</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>26 - 35</td>
<td>1</td>
<td>4.0</td>
<td>8</td>
</tr>
<tr>
<td>36 - 45</td>
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<td>9</td>
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<tr>
<td>46 - 55</td>
<td>4</td>
<td>16.0</td>
<td>11</td>
</tr>
<tr>
<td>56 - 65</td>
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<td>Over 65</td>
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<tr>
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<td><strong>Total</strong></td>
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<td>59</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Experience in weaving</th>
<th>Tsaile Weavers</th>
<th>Ramah Weavers</th>
<th>Total Weavers</th>
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<td>11 - 15 years</td>
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<td>41 - 45 years</td>
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<tr>
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<td>59</td>
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<table>
<thead>
<tr>
<th>Number of rugs per year</th>
<th>Tsaile Weavers</th>
<th>Ramah Weavers</th>
<th>Total Weavers</th>
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<tr>
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<tr>
<td>Over 13</td>
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<td>-</td>
<td>3</td>
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<tr>
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<td>20.0</td>
<td>2</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>4.0</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100.0</td>
<td>59</td>
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</tbody>
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TABLE 1 (Continued)
Frequency Distribution For Descriptive Information About The Weavers

<table>
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<tr>
<th>Itema</th>
<th>Tsaile Weavers</th>
<th>Ramah Weavers</th>
<th>Total Weavers</th>
</tr>
</thead>
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<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Size of Rug</td>
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<td></td>
</tr>
<tr>
<td>less than 4 sq. ft.</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4 - 8 sq. ft.</td>
<td>2</td>
<td>8.0</td>
<td>13</td>
</tr>
<tr>
<td>9 - 15 sq. ft. (3x5)</td>
<td>7</td>
<td>28.0</td>
<td>25</td>
</tr>
<tr>
<td>16 - 35 sq. ft.</td>
<td>2</td>
<td>8.0</td>
<td>17</td>
</tr>
<tr>
<td>96 - 115 sq. ft. (9x12)</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>different sizes</td>
<td>6</td>
<td>24.0</td>
<td>1</td>
</tr>
<tr>
<td>small</td>
<td>5</td>
<td>20.0</td>
<td>-</td>
</tr>
<tr>
<td>medium</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>large</td>
<td>2</td>
<td>8.0</td>
<td>-</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>4.0</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>100.0</td>
<td>59</td>
</tr>
</tbody>
</table>

Source of Learning to Weave

<table>
<thead>
<tr>
<th>Item</th>
<th>Tsaile Weavers</th>
<th>Ramah Weavers</th>
<th>Total Weavers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Mother/family</td>
<td>21</td>
<td>84.0</td>
<td>45</td>
</tr>
<tr>
<td>Community college</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Chapter</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Adult educ. programs</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Observing other weavers</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Other responses</td>
<td>4</td>
<td>16.0</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>100.0</td>
<td>59</td>
</tr>
</tbody>
</table>

a Questionnaire and item numbers are: W-4, 21, 22, 23, 24.
TABLE 2
Frequency Distribution for
Descriptive Information About The Traders

<table>
<thead>
<tr>
<th>Itemsa</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 25 years</td>
<td>1</td>
<td>4.1</td>
</tr>
<tr>
<td>26 - 35</td>
<td>1</td>
<td>4.1</td>
</tr>
<tr>
<td>36 - 45</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>46 - 55</td>
<td>10</td>
<td>41.8</td>
</tr>
<tr>
<td>56 - 65</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>over 65</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>4.1</td>
</tr>
<tr>
<td><strong>24</strong></td>
<td></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td><strong>Number of years worked at a trading post?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 5 years</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>6 - 10</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>11 - 15</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>16 - 20</td>
<td>1</td>
<td>4.1</td>
</tr>
<tr>
<td>21 - 25</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>26 - 30</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>31 - 35</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>36 - 40</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>41 - 45</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>46 - 50</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>over 50</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>24</strong></td>
<td></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td><strong>Number of years as a licensed trader?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 5 years</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>5 - 10</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>11 - 15</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>16 - 20</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>21 - 25</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>26 - 30</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>31 - 35</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>36 - 40</td>
<td>3</td>
<td>13.0</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>24</strong></td>
<td></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
TABLE 2 (Continued)

Frequency Distribution for
Descriptive Information About The Traders

<table>
<thead>
<tr>
<th>Items</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of years trading Navajo rugs?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 5 years</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>5 - 10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11 - 15</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>16 - 20</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>21 - 25</td>
<td>3</td>
<td>12.6</td>
</tr>
<tr>
<td>26 - 30</td>
<td>3</td>
<td>12.6</td>
</tr>
<tr>
<td>31 - 35</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>36 - 40</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>41 - 45</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>46 - 50</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>100.0</td>
</tr>
</tbody>
</table>

a Questionnaire and item numbers are: T-20, 21, 22, 23.
### TABLE 3
Frequency Distribution for
**Descriptive Information About The Collectors**

<table>
<thead>
<tr>
<th>Items</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 25 years</td>
<td>1</td>
<td>4.0</td>
</tr>
<tr>
<td>26 - 35</td>
<td>2</td>
<td>8.0</td>
</tr>
<tr>
<td>36 - 45</td>
<td>4</td>
<td>16.0</td>
</tr>
<tr>
<td>46 - 55</td>
<td>3</td>
<td>12.0</td>
</tr>
<tr>
<td>56 - 65</td>
<td>9</td>
<td>36.0</td>
</tr>
<tr>
<td>over 65</td>
<td>5</td>
<td>20.0</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>25</td>
<td>100.0</td>
</tr>
</tbody>
</table>

| Number of years collecting Navajo rugs? | | |
| under 5 years | 2 | 8.0 |
| 6 - 10 | 5 | 20.0 |
| 11 - 15 | 4 | 16.0 |
| 16 - 20 | 4 | 16.0 |
| 21 - 25 | 2 | 8.0 |
| 26 - 30 | 2 | 8.0 |
| 31 - 35 | 1 | 4.0 |
| 36 - 40 | 1 | 4.0 |
| 41 - 45 | - | - |
| 46 - 50 | 1 | 4.0 |
| over 50 | - | - |
| No Response | 3 | 12.0 |
| **Total** | 25 | 100.0 |

| Classification of textile collection | | |
| Antique pre 1900 | | |
| under 25% | 9 | 36.0 |
| 25 - 50% | 5 | 20.0 |
| 51 - 75% | 4 | 16.0 |
| 76 - 100% | 4 | 16.0 |
| No Response | 3 | 12.0 |
| **Total** | 25 | 100.0 |

| Early 20C 1900 - 1960 | | |
| under 25% | 13 | 52.1 |
| 25 - 50% | 4 | 16.0 |
| 51 - 75% | 2 | 8.0 |
| 76 - 100% | 3 | 12.0 |
| No Response | 3 | 12.0 |
| **Total** | 25 | 100.0 |
TABLE 3 (Continued)

<table>
<thead>
<tr>
<th>Items</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contemporary since 1960</td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 25%</td>
<td>8</td>
<td>32.0</td>
</tr>
<tr>
<td>25 - 50%</td>
<td>7</td>
<td>28.0</td>
</tr>
<tr>
<td>51 - 75%</td>
<td>1</td>
<td>4.0</td>
</tr>
<tr>
<td>76 - 100%</td>
<td>3</td>
<td>12.0</td>
</tr>
<tr>
<td>No Response</td>
<td>6</td>
<td>24.0</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>100.0</td>
</tr>
</tbody>
</table>

a Questionnaire and item numbers are: C-21, 22, 23.
TABLE 4

Frequency Distribution of Responses by the Three Groups
Regarding Type of Fiber (Sheep) Currently Used by Weavers

<table>
<thead>
<tr>
<th>Type of Fibera</th>
<th>Tsaile Weavers (n=25)</th>
<th>Ramah Weavers (n=59)</th>
<th>Total Weavers (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Corridale</td>
<td>2</td>
<td>8.0</td>
<td>29</td>
</tr>
<tr>
<td>Rambouillet</td>
<td>2</td>
<td>8.0</td>
<td>23</td>
</tr>
<tr>
<td>Columbian</td>
<td>1</td>
<td>4.0</td>
<td>11</td>
</tr>
<tr>
<td>Churro</td>
<td>4</td>
<td>16.0</td>
<td>1</td>
</tr>
<tr>
<td>Other: e.g. commercial import, Mohair</td>
<td>7 28.0</td>
<td>9 15.3</td>
<td>16 19.0</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
<td>73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Fibera</th>
<th>Traders (n=24)</th>
<th>Collectors (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Corridale</td>
<td>8</td>
<td>33.3</td>
</tr>
<tr>
<td>Rambouillet</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>Churro</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>Other: e.g. imports</td>
<td>2 8.3</td>
<td>5 20.0</td>
</tr>
<tr>
<td>Mohair</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>Do not know</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

a Respondents could reply to more than one type of fiber.
Questionnaire and item number: W-8; T-9, 10; C-8, 9.
TABLE 5  
Frequency Distribution of Responses Regarding Change Since the 1960's in Fiber Used

<table>
<thead>
<tr>
<th>Group</th>
<th>Fiber Has Changed</th>
<th>Fiber Has Not Changed</th>
<th>Do Not Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>Weavers</td>
<td>25 29.8</td>
<td>35 41.7</td>
<td>-</td>
<td>24 28.6</td>
</tr>
<tr>
<td>Ramah</td>
<td>18 30.5</td>
<td>22 37.3</td>
<td>-</td>
<td>19 32.2</td>
</tr>
<tr>
<td>Tsaile</td>
<td>7 28.0</td>
<td>13 52.0</td>
<td>-</td>
<td>4 16.0</td>
</tr>
<tr>
<td>Traders</td>
<td>7 20.8</td>
<td>7 29.2</td>
<td>5 20.8</td>
<td>5 20.8</td>
</tr>
<tr>
<td>Collectors</td>
<td>8 32.0</td>
<td>6 24.0</td>
<td>10 40.0</td>
<td>1 4.0</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>48</td>
<td>15</td>
<td>30</td>
</tr>
</tbody>
</table>

a Respondents: Weavers (n=84), Tsaile (n=25), Ramah (n=59), traders (n=24), collectors (n=25).

b Questionnaire and item numbers are: W-8, 9, 10; T-9, 10; C-8, 9.
## TABLE 6

Frequency Distribution of Responses Regarding Methods of Fiber Preparation Currently Used

<table>
<thead>
<tr>
<th>Preparation of Fiber&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Tsaile (n=25)</th>
<th>Ramah (n=59)</th>
<th>Total Weavers (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Hand card</td>
<td>13</td>
<td>52.0</td>
<td>54</td>
</tr>
<tr>
<td>Hand wash</td>
<td>16</td>
<td>64.0</td>
<td>37</td>
</tr>
<tr>
<td>Commercial comb</td>
<td>4</td>
<td>16.0</td>
<td>2</td>
</tr>
<tr>
<td>Commercial wash</td>
<td>1</td>
<td>4.0</td>
<td>2</td>
</tr>
<tr>
<td>Other responses, wash after</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>spinning</td>
<td>4</td>
<td>16.0</td>
<td>16</td>
</tr>
<tr>
<td>Other responses</td>
<td>38</td>
<td></td>
<td>95</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traders (n=24)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Hand wash</td>
<td>18</td>
<td>75.0</td>
<td>13</td>
</tr>
<tr>
<td>Hand card</td>
<td>16</td>
<td>66.7</td>
<td>13</td>
</tr>
<tr>
<td>Commercial wash</td>
<td>6</td>
<td>25.0</td>
<td>13</td>
</tr>
<tr>
<td>Commercial comb</td>
<td>5</td>
<td>20.8</td>
<td>11</td>
</tr>
<tr>
<td>Other responses</td>
<td>4</td>
<td>16.7</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>49</td>
<td></td>
<td>55</td>
</tr>
</tbody>
</table>

<sup>a</sup> Respondents could reply to more than one item.

Questionnaire and item numbers are: W-13; T-12; C-11.
TABLE 7

Frequency Distribution of Responses by Weavers:
Yarn Preparation Used Currently and in the 1960's

<table>
<thead>
<tr>
<th>Items^a</th>
<th>Tsaile (n=25)</th>
<th>Ramah (n=59)</th>
<th>Total Weavers (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Current yarn type/preparation^b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand card/hand spun</td>
<td>7</td>
<td>28.0</td>
<td>54</td>
</tr>
<tr>
<td>Commercial Yarn</td>
<td>12</td>
<td>48.0</td>
<td>8</td>
</tr>
<tr>
<td>Commercial roving/hand spun</td>
<td>7</td>
<td>28.0</td>
<td>2</td>
</tr>
<tr>
<td>Other responses:</td>
<td>1</td>
<td>4.0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Change in yarn type/preparation since 1960's</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number weaving in 1960's</td>
<td>21</td>
<td>84.0</td>
<td>41</td>
</tr>
<tr>
<td>Have changed yarn type</td>
<td>10</td>
<td>47.6c</td>
<td>1</td>
</tr>
<tr>
<td>Have not changed yarn type</td>
<td>4</td>
<td>19.4</td>
<td>38</td>
</tr>
<tr>
<td>No Response</td>
<td>7</td>
<td>33.3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td></td>
<td>41</td>
</tr>
<tr>
<td>Type of yarn used in 1960's</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand card/hand spun</td>
<td>9</td>
<td>47.4c</td>
<td>39</td>
</tr>
<tr>
<td>Commercial yarn</td>
<td>4</td>
<td>21.1</td>
<td>-</td>
</tr>
<tr>
<td>Commercial roving/hand spun</td>
<td>1</td>
<td>5.3</td>
<td>1</td>
</tr>
<tr>
<td>Other responses included:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>synthetic</td>
<td>1</td>
<td>5.3</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

^a Questionnaire and item numbers are: W-14, 15, 17.

^b Respondents could reply to more than one item.

^c Percent figured on the number weaving in the 1960's.
# TABLE 8

Frequency Distribution of Responses by Traders and Collectors:
Perceptions of Methods Currently Used and in 1960's by Weavers

<table>
<thead>
<tr>
<th>Preparation of Yarn(^a)</th>
<th>Traders' Perceptions (n=24)</th>
<th>Collectors' Perceptions (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Currently Used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand card/hand spun</td>
<td>15</td>
<td>62.5</td>
</tr>
<tr>
<td>Commercial yarn</td>
<td>11</td>
<td>45.8</td>
</tr>
<tr>
<td>Commercial roving/hand</td>
<td>7</td>
<td>29.2</td>
</tr>
<tr>
<td>spun</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Responses included:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthetic, do not know</td>
<td>8</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change in yarn type/preparation</th>
<th>Traders (n=24)</th>
<th>Collectors (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have changed yarn type</td>
<td>12 50.0</td>
<td>13 52.0</td>
</tr>
<tr>
<td>Have not changed yarn type</td>
<td>9 37.5</td>
<td>2 8.0</td>
</tr>
<tr>
<td>Do not know</td>
<td>2 8.3</td>
<td>8 32.0</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Used in the 1960's</th>
<th>Traders (n=24)</th>
<th>Collectors (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand card/hand spun</td>
<td>9 37.5</td>
<td>14 56.0</td>
</tr>
<tr>
<td>Commercial yarn</td>
<td>5 20.8</td>
<td>5 20.0</td>
</tr>
<tr>
<td>Commercial roving/hand spun</td>
<td>5 20.8</td>
<td>4 16.0</td>
</tr>
<tr>
<td>Other responses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do not know</td>
<td>-</td>
<td>2 8.0</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>25</td>
</tr>
</tbody>
</table>

\(^a\) Respondents could reply to more than one type of fiber.
Questionnaire and item numbers are: T-13, 14; C-12, 13.
### TABLE 9

**Frequency Distribution of Weavers' Responses:**

Yarn Coloration Used Currently and in the 1960's

<table>
<thead>
<tr>
<th>Yarn Coloration⁹</th>
<th>Tsaile (n=25)</th>
<th>Weavers Ramah (n=59)</th>
<th>Total Weavers (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Currently used</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home use natural dyes</td>
<td>14</td>
<td>56.0</td>
<td>52</td>
</tr>
<tr>
<td>Home use commercial dyes</td>
<td>4</td>
<td>16.0</td>
<td>18</td>
</tr>
<tr>
<td>Commercially dyed</td>
<td>7</td>
<td>28.0</td>
<td>8</td>
</tr>
<tr>
<td>Other Responses</td>
<td>2</td>
<td>8.0</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27</td>
<td>8.0</td>
<td>87</td>
</tr>
</tbody>
</table>

-used in the 1960's

<table>
<thead>
<tr>
<th>Number weaving in 1960's</th>
<th>Tsaile (n=25)</th>
<th>Weavers Ramah (n=59)</th>
<th>Total Weavers (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home use natural dyes</td>
<td>14</td>
<td>66.7⁹</td>
<td>10</td>
</tr>
<tr>
<td>Home use commercial dyes</td>
<td>6</td>
<td>28.6</td>
<td>28</td>
</tr>
<tr>
<td>Commercially dyed</td>
<td>1</td>
<td>48.0</td>
<td>1</td>
</tr>
<tr>
<td>Other Responses</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27</td>
<td>41</td>
<td>84</td>
</tr>
</tbody>
</table>

---

⁹ Respondents could reply to more than one yarn coloration option.

Questionnaire and item numbers are: W-16, 17

b Percent figured or the number of weavers who were weaving in the 1960's.
**TABLE 10**

Frequency Distribution of Traders' and Collectors' Perceptions of Yarn Coloration Used Currently and in the 1960's by Weavers

<table>
<thead>
<tr>
<th>Yarn Colorationa</th>
<th>Traders' Perceptions (n=24)</th>
<th>Collectors' Perceptions (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Novice Weaver</td>
<td>Master Weaver</td>
</tr>
<tr>
<td>Currently Used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home use natural dyes</td>
<td>11</td>
<td>45.8</td>
</tr>
<tr>
<td>Home use commercial dyes</td>
<td>15</td>
<td>62.5</td>
</tr>
<tr>
<td>Commercially dyed</td>
<td>12</td>
<td>50.0</td>
</tr>
<tr>
<td>Other responses</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Used in the 1960's</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home use natural dyes</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>Home use commercial dyes</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>Commercially dyed</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>Other responses</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

a Respondants could reply to more than one yarn coloration option.
Questionnaire and item numbers are: T-15, 16; C-14, 15.
<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Traders Give Advice</th>
<th>Weavers Solicit Advice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Weavers total</td>
<td>84</td>
<td>26</td>
<td>31.0</td>
</tr>
<tr>
<td>Tsaile</td>
<td>25</td>
<td>13</td>
<td>52.0</td>
</tr>
<tr>
<td>Ramah</td>
<td>59</td>
<td>13</td>
<td>22.0</td>
</tr>
<tr>
<td>Traders</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Novice weavers</td>
<td></td>
<td>14</td>
<td>58.3</td>
</tr>
<tr>
<td>Master weavers</td>
<td></td>
<td>10</td>
<td>41.6</td>
</tr>
<tr>
<td>Collectors</td>
<td>25</td>
<td>18</td>
<td>72.0</td>
</tr>
</tbody>
</table>

- Questionnaire and item numbers are: W-5, 7; T-6, 8; C-5, 7.
### TABLE 12

**Frequency Distribution of Traders' and Collectors' Perceptions of Traders Influence on Rug Quality Indicators**

<table>
<thead>
<tr>
<th>Quality Indicators</th>
<th>Traders (n=24)</th>
<th></th>
<th>Collectors (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Traders give advice on:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>14</td>
<td>58.3</td>
<td>15</td>
</tr>
<tr>
<td>Design</td>
<td>12</td>
<td>50.0</td>
<td>13</td>
</tr>
<tr>
<td>Quality of weaving</td>
<td>11</td>
<td>45.8</td>
<td>13</td>
</tr>
<tr>
<td>Yarn quality</td>
<td>10</td>
<td>41.6</td>
<td>13</td>
</tr>
<tr>
<td>Fiber content</td>
<td>8</td>
<td>33.3</td>
<td>6</td>
</tr>
<tr>
<td>Price</td>
<td>5</td>
<td>20.8</td>
<td>1</td>
</tr>
<tr>
<td>Size</td>
<td>1</td>
<td>4.2</td>
<td>-</td>
</tr>
<tr>
<td>Other responses:</td>
<td>1</td>
<td>4.2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>62</td>
<td></td>
<td>62</td>
</tr>
</tbody>
</table>

\*Respondents could reply to more than one area of advice. Questionnaire and item numbers are: T-7; C-6.*
TABLE 13

Frequency Distribution of Weavers Perceptions of Traders
Influence on Navajo Rugs: Based on Materials, Weaving and Design

<table>
<thead>
<tr>
<th>Quality Indicator (Areas of Traders' Advice)</th>
<th>Tsaile (n=25)</th>
<th>Ramah (n=59)</th>
<th>Weavers Total (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>8</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>Design</td>
<td>11</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Fiber content</td>
<td>7</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Size</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Yarn Quality</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Price</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Quality Weaving</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other: Quality Weaving</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>33</strong></td>
<td><strong>23</strong></td>
<td><strong>56</strong></td>
</tr>
</tbody>
</table>

a Respondents could reply to more than one quality indicator.
Questionnaire and item number is: W-6.
### TABLE 14

Frequency Distribution of Weavers' Perceptions of Quality of Fiber

<table>
<thead>
<tr>
<th>Quality Indicator: Fiber</th>
<th>Tsaile (n=25)</th>
<th>Ramah (n=59)</th>
<th>Weavers Total (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Number weaving in the 1960's</td>
<td>21</td>
<td>84.0</td>
<td>41</td>
</tr>
<tr>
<td>Fiber improved since 1960's: longer, dryer</td>
<td>13</td>
<td>61.9&lt;sup&gt;b&lt;/sup&gt;</td>
<td>27</td>
</tr>
<tr>
<td>Fiber poorer since 1960's: shorter, crimpy, greasy</td>
<td>1</td>
<td>4.8</td>
<td>12</td>
</tr>
<tr>
<td>Fiber, no change since 1960's</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Do not know</td>
<td>5</td>
<td>23.8</td>
<td>1</td>
</tr>
</tbody>
</table>

<sup>a</sup> Questionnaire and item numbers are: W-12, 15, 16.

<sup>b</sup> Percent figured on the number of weavers who were weaving in the 1960's.
TABLE 15
Frequency Distribution of Traders' and Collectors' Perceptions Regarding Quality Indicators: Based on Materials

<table>
<thead>
<tr>
<th>Quality Indicator - Fiber&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Traders (n=24)</th>
<th>Collectors (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Fiber improved since 1960's:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>longer, dryer</td>
<td>13</td>
<td>54.2</td>
</tr>
<tr>
<td>Fiber poorer since 1960's:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>shorter, crimp, greasy</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>Fiber, no change since 1960's</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do not know</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Questionnaire and item numbers are: T-11; C-10.
### TABLE 16

Frequency Distribution of Response by Weavers, Traders and Collectors Regarding Trading of the Navajo Rug

<table>
<thead>
<tr>
<th>Question</th>
<th>Weavers</th>
<th>Tsaile (n=25)</th>
<th>Ramah (n=50)</th>
<th>Weavers Total (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do weavers trade exclusively at one trading post?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>17</td>
<td>60.0</td>
<td>5</td>
<td>8.5</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>12.0</td>
<td>6</td>
<td>10.2</td>
</tr>
<tr>
<td>Do not know</td>
<td>3</td>
<td>12.0</td>
<td>46</td>
<td>78.0</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>8.0</td>
<td>2</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>59</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>2. Do weavers currently sell their rugs at the same outlets as in the 1960's?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>28.0</td>
<td>11</td>
<td>18.6</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>40.0</td>
<td>23</td>
<td>39.0</td>
</tr>
<tr>
<td>Do not know</td>
<td>6</td>
<td>24.0</td>
<td>25</td>
<td>42.4</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>8.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>59</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>3. Could Navajo weaving survive without the trading post trader?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>36.0</td>
<td>42</td>
<td>71.1</td>
</tr>
<tr>
<td>No</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>6.8</td>
</tr>
<tr>
<td>Do not know</td>
<td>13</td>
<td>52.0</td>
<td>13</td>
<td>22.0</td>
</tr>
<tr>
<td>No response</td>
<td>3</td>
<td>12.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>59</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>4. Do traders exert a strong influence over Navajo weaving today?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>20.0</td>
<td>23</td>
<td>39.0</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>20.0</td>
<td>10</td>
<td>16.9</td>
</tr>
<tr>
<td>Do not know</td>
<td>12</td>
<td>48.0</td>
<td>26</td>
<td>44.1</td>
</tr>
<tr>
<td>No response</td>
<td>3</td>
<td>12.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>59</td>
<td>84</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 16 Continued

Frequency Distribution of Response by Weavers, Traders and Collectors Regarding Trading of the Navajo Rug

<table>
<thead>
<tr>
<th>Question</th>
<th>Traders (n=24)</th>
<th>Collectors (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1. Do weavers trade exclusively at one trading post?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>No</td>
<td>18</td>
<td>75.0</td>
</tr>
<tr>
<td>Do not know</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>2. Do weavers currently sell their rugs at the same outlets as in the 1960's?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>17</td>
<td>70.8</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>Do not know</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>3. Could Navajo weaving survive without the trading post trader?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>37.5</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>50.0</td>
</tr>
<tr>
<td>Do not know</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>4. Do traders exert a strong influence over Navajo weaving today?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>66.7</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>29.2</td>
</tr>
<tr>
<td>Do not know</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>No response</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

*Question and item numbers are: W-1, 18, 19, 20; T-2, 17, 18, 19; C-1, 16, 17, 18.*
TABLE 17

Frequency Distribution of Collectors' Behavior
in Regards to Where Rugs are Purchased

<table>
<thead>
<tr>
<th>Place of Purchase</th>
<th>Collectors' Responses (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>From Weaver</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>44.0</td>
</tr>
<tr>
<td>Trading Post</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>28.0</td>
</tr>
</tbody>
</table>

a Question and item number are: C-19, 20.
TABLE 18

Differences in Relationship Variables for Weavers, Traders and Collectors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Weavers(^a)</th>
<th>Traders(^b)</th>
<th>Collectors(^c)</th>
<th>(x^2)</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Can Navajo weaving survive without the trader?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28(33.3)</td>
<td>16(66.7)</td>
<td>11(44.0)</td>
<td>18.5</td>
<td>4</td>
<td>.0010</td>
</tr>
<tr>
<td>No</td>
<td>15(17.9)</td>
<td>7(29.2)</td>
<td>7(28.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No opinion</td>
<td>38(45.2)</td>
<td>1(4.2)</td>
<td>4(16.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Do weavers sell rugs at same outlets as in 1960's?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>51(60.7)(^b)</td>
<td>9(37.5)</td>
<td>6(24.0)</td>
<td>41.2</td>
<td>4</td>
<td>.0001</td>
</tr>
<tr>
<td>No</td>
<td>4(4.8)</td>
<td>12(50.0)</td>
<td>12(48.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No opinion</td>
<td>26(31.0)</td>
<td>1(4.2)</td>
<td>5(20.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Do traders exert strong influence on Navajo weaving?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>18(21.4)</td>
<td>17(70.8)</td>
<td>13(52.0)</td>
<td>25.4</td>
<td>4</td>
<td>.0001</td>
</tr>
<tr>
<td>No</td>
<td>33(39.3)</td>
<td>3(12.5)</td>
<td>5(20.0)</td>
<td>25.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No opinion</td>
<td>33(39.3)</td>
<td>3(12.5)</td>
<td>6(24.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Weavers (n=84)

\(^b\) Traders (n=24)

\(^c\) Collectors (n=25)
TABLE 19

Frequency Distribution of Traders' and Collectors' Perceptions of Regional Rug Styles of the Navajo Rug Industry

<table>
<thead>
<tr>
<th>Question</th>
<th>Traders (n=24)</th>
<th>Collectors (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1. Do trading posts currently deal in regional rug styles?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td>45.8</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>45.8</td>
</tr>
<tr>
<td>Do not know</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>100.0</td>
</tr>
<tr>
<td>2. Are trading posts currently developing regional rug styles?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td>83.3</td>
</tr>
<tr>
<td>Do not know</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>100.0</td>
</tr>
</tbody>
</table>

a Question and item numbers are: T-3, 4; C-2, 3.
TABLE 20

Frequency Distribution of Weavers' Perceptions of Regional Rug Styles of the Navajo Rug Industry

<table>
<thead>
<tr>
<th>Questionsa</th>
<th>Tsaile (n=25)</th>
<th>Ramah (n=59)</th>
<th>Weavers total (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1. Do you currently weave in a regional rug style?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>40.0</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>40.0</td>
<td>43</td>
</tr>
<tr>
<td>Do not know</td>
<td>1</td>
<td>4.0</td>
<td>2</td>
</tr>
<tr>
<td>No response</td>
<td>4</td>
<td>16.0</td>
<td>1</td>
</tr>
<tr>
<td>2. Are you currently developing a regional rug style in your weaving?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>24.0</td>
<td>27</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>56.0</td>
<td>15</td>
</tr>
<tr>
<td>Do not know</td>
<td>2</td>
<td>8.0</td>
<td>17</td>
</tr>
<tr>
<td>No response</td>
<td>3</td>
<td>12.0</td>
<td>-</td>
</tr>
</tbody>
</table>

a Questionnaire and item numbers are: W-2, 3.
REFERENCE LIST


Faich, Ron. (1981). Summary Results of the 1980 Census in Navajo Tribal Chapters within the Navajo Reservation. Unpublished manuscript, Library of Economic Development, Navajo Tribal Offices, Window Rock, AZ.


Gilpin, Laura. (1968). The Enduring Navajo. Austin, TX: University of Texas Press.


Mera, Harry Percival. (1948). Navajo Textile Arts. Santa Fe, NM: The Laboratory of Anthropology.


Young, Stella. (1938). Native Plants used by the Navajo. Fort Wingate, NM: Wingate Vocational High School.
PERSONAL COMMUNICATIONS LIST

Baber, John and Marjorie
Sheep ranchers and rug collectors, Laramie, WY.

Bauer, Liz
Curator, Hubbell Trading Post Museum, Ganado, AZ.

Bennett, Noel
Author, weaver, Director of Shared horizons, Corrales, NM.

Boles, Joann
Professor, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Brown, Rachel
Author, weaver, lecturer, owner of weaving shops, Arroyo Seco, NM.

Burnham, Bruce
Trader, conference speaker, Sanders, AZ.

H. Jackson, Clark
Dealer, rug collector, Toh-Atin Gallery, Jackson David Trading Co., Durango, CO.

Duus, Gloria
Head of the Navajo Women's Organization, weaver, Window Rock, AZ.

Dwyer, Dan
Rug collector, dealer, Denver, CO.

Fellin, Octavia
Librarian, Gallup Public Library, Gallup, NM.

Harrison, Chip
Rug collector, Boulder, CO.

Hedlund, Ann Lane
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Lee, Yin-May
Community planner and assistant for the Ramah Navajo School Board, Ramah, NM.

Malone, Bill
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McNeal, Lyle
Director, Churro Sheep Program, Dept. of Animal, Dairy and Veterinary Sciences, Utah State University, Logan, UT.
Morgan, Bob
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Rodee, Marian
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Smith, Raymond
General Manager, Navajo Arts and Crafts Enterprise, Window Rock, AZ.

Townsend, Mr.
Trader, Crystal, NM.

Wheat, Joe Ben
Senior Curator of Anthropology, University of Colorado Museum, Boulder, CO.

Wilson, Les
Trader, Two Grey Hills, Toadlena, AZ.