

Changing Trends in Weaving Industry of Amarapura, Myanmar

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Clothing is a basic human need as much as food and shelter. Weaving is an ancient industry in Myanmar. This study explored the changing trends in the weaving industry of Amarapura, Myanmar. Weaving has played a very important role in the study area for its long tradition and new inventions of the artistic design. The main aim of this research is to analyze the changing conditions of weaving industry, based on primary and secondary data sources. The data were collected through questionnaires and direct interviews. The results revealed that employees' lower productivity was due to their lack of knowledge about modern technologies with modern machines. The owner of a small-scale factory also worried about the situation of no longer existence of their weaving industry. The study finds that women's woven products changed and developed due to the greater demand for hand-made items while those related to men's fashions remained the same over time. In addition, types of labor responded to changes to some extent for the greater consumer demand of handmade designs. Depending on the development of technology and changes in consumer demand, continual changes in industrial patterns can be expected in this study area in the future.

Keywords: changing trends, weaving industry, modern technology, Amarapura, Myanmar

INTRODUCTION

Weaving is one of the primary methods of textile production and it involves interlinking a set of vertical threads with a set of horizontal threads (Rozentals 2020). The set of vertical threads are known as warp and the set of horizontal threads are known as wefts. Weaving can be done by hand and by using machines. Nowadays weaving has become a mechanized process, though hand weaving is still in practice to meet a particular consumer market.

Like food and shelter, clothing is also a basic need of human beings. The weaving industry has been known in Myanmar since historic ancient historic times. Especially, the weaving industry has played a very important role as Amarapura Township's dominant cottage industry due to its long traditions and new inventions of the artistic designs. The weaving industry was less developed and operated by manual by human manual labor until the 19th Century when there were no machines for the production of cloth.

Since the Bagan and Inwa periods ranging from the 9th through 19th centuries, Amarapura dwellers have been mainly engaged in this industry until present day. According to the historical records, the weaving industry of Amarapura was engaged with hand-throwing loom technology in 1910 and persisted until post-independence in the 1950s. During the colonial period, English judicial commissioner of Upper Burma, Mr. Leslie Harry Saunders, had revived weaving cultures in Amarapura by introducing the fly shuttle sly that brought from England. Up until independence the weaving industry of Amarapura had

little changed by the governmental project at Saunders Weaving Institute (SWI) in Amarapura Township. Because of the project, most of weavers in Amarapura were used the power looms in weaving industry. After that the weaving industry of Amarapura has changed from the throwing loom to the power loom up to present. It is found that 80 percent of the total populations of the town got income from weaving industry and the related weaving business (Tint Tint 2014, 51-55).

An important change in the weaving industry in Amarapura was in the art and design development of *longyi* (women's wear) in 2004. It was the painting on the garment by hand with acrylic color. Those designed garments were successfully distributed to the markets throughout the country. Then, the design and pattern of *longyi* (woman's wear) were also created by cutting on film for their desired pattern. But there is no change of 100-shuttle traditional weaving industry known as *Lun-Yar-Kyaw*. Although the pattern and design of *Lun-Yar-Kyaw longyi* are varied throughout the period, the 100-shuttle traditional weaving industry has continued to be alive in the study area since Royal Era to Present days.

Despite the development of various designs and patterns, the significant and unique value of *Lun-Yar-Kyaw longyi* is still high in their production. However, this sector is confronted with various problems such as irregular and inadequate supply of hank yarn. The abrupt rise in prices of yarn, dyes and chemicals is also the most challenging factors which contribute to the crisis of production in *Lun-Yar-Kyaw*. But the new modern *Kyo Gyi Cheik* (big cord embroidery) can be seen at least 75 percent of ceremonies and wedding receptions in Myanmar today (Lwin 2012). In the past two years, the design called *para-peik* (smaller cord embroidery) has become popular. Because both youth and elderly people enjoy *Kyo Gyi Cheik*, that design has become fashionable again in the market.

Research Aim and Methodology

The main aim of the present research work is to analyze the changing conditions of the weaving industry and to examine the changes having impacts on the socio-economic conditions. In the present economic environment, weaving industry is still adapting to the changing of art and design, patterns and technology. The primary data was collected from some industries by means of questionnaires and interview methods. Secondary data are those data which are available from Saunders Weaving Institute (SWI), through books and magazines and from published and unpublished sources and reports, research, journals. A total of 25 respondents participated in the data collection. They were weavers of handloom and power loom, cloth sellers, dyers, the administrator, and weaving-related material shops. This research was conducted from 2017 to 2018. The *SWOT* analysis is applied in my research paper.

RESEARCH FINDINGS

Historical Background of the Study Area

Amarapura is located at the eastern bank of the Ayeyawaddy River. It is not far away (11km or 8 miles) from Mandalay. It is situated on the Mandalay-Sagaing Highway. It is located at the crossing point of 21° 54' North latitude and 96° 3' East longitude (Figure 1).

Myanmar has practiced the art of weaving since the days of Pyu city-states (2nd Century BC to mid-11th Century AD). The weaving industry continued to develop in succeeding dynasties. During King Badon's Reign (1745 to 1819), the Manipur weavers were brought into Myanmar as the prisoners of war. King Bagyidaw (1783 to 1859) gave special favor to the "*Manipuri acheik* weavers" and allowed them to live in their own community in Amarapura. During that time, Amarapura along with Inwa and Sagaing became the center of the weaving industry. Amarapura was a historic town. It was the capital of Myanmar in the 18th century during King Bodaw Phaya (King Badon).

After that, the weaving industry is until used by promoting from the level of fly shuttle sly to the power loom level. Today Amarapura is a city of about 100,000 inhabitants whose main occupation is weaving cotton and silk into Myanmar *Kyogyi* and "*acheik htamain*" (ceremonial *longyi*) (Township Administration Department 2014). Amarapura has become the hub of Myanmar silk wear and the products are produced by thousands of private owned traditional hand looms as well as power looms and traded both wholesale and retail.

Changing Trend in Weaving Industry of Amarapura

In this section changing trend of weaving industry is discussed relative to four different criteria, i.e. technology, design and pattern, labor and market. The changing trend of this industry is illustrated in the Figure 2. Detail pattern of changes of weaving industry is discussed each individually.

Technology Changes

Initially very simple technologies were used for making the textiles. The emphasis on productivity and quality has developed the weaving technology very much and as a result the working hours required to weave fabric from loom have been reduced from about 20 to 0.25 hours during the last 125 years, and in the last 50 years there has been a reduction of 95 percent in operating hours per standard unit of product. Since the 14th century, the cloth was produced on handlooms which were not equipped with fly shuttle (Mytelka 1991).

John Kay's fly shuttle invented in 1733 enabled the weft to be inserted more rapidly. In the study area, clothes with 22 inches of breadth could be woven by using the hand throwing loom in 1910. At that time, Saunders had brought a sly from England. Then, most weaver in Amarapura have been using the fly shuttle sly because of the advantage that it not only saves labor but also can weave clothes with length-range and the improvement in the quality of product (Tint Tint 2014, 51-55).

At the present, most stakeholders (big owners in weaving) have changed to weave the clothes by using power loom. It can work more quickly. Besides, the power loom was made to speed up the production and lower the wages of weaving. Moreover, the power loom was necessary because it made the job quicker and people earned more money on piecework. The machines made more items in less time and they could sell more products more quickly. (Tanusree 2015). In recent times, some stakeholders wanted to advance their production, so they have adopted modernized computer knitting machine. A knitting machine is a device used to create knitted fabric in a semi- or fully automated fashion. Figure 3 illustrates this changing trend of weaving.

Design and Pattern Changes (Figure 4)

Textile design is essentially the process of creating designs for woven, knitted or printed fabrics or surface ornamented fabrics from raw material into finished product. The creations of design are not only important for their ordinary use, but also for the role they play in the fashion industry.

The textile designers possess a creative vision of what a finished textile will look like with a deep understanding of the technical aspects of production and the properties of fiber, yarn, and dyes. Traditionally, drawings of woven textile patterns were translated onto special forms of graph paper called point papers, which were used by the weavers in setting up their looms.

Today, most professional textile designers use some form of computer-aided design software. Some of the latest advances in textile printing have been in the area of digital printing. Patterns are often designed in repeat to maintain a balanced design even when fabric is made into yardage. Repeat size is the distance directly across or down from any motif in a design to the next place that same motif occurs. For example, printed repeat patterns must fit within particular screen sizes while woven repeat patterns must fit within certain loom sizes (Worbin 2010).

There are several different types of layouts for repeated pattern that this industry uses. There are two basic changes in design and patterns. The first one is the *acheik* design and the second one is the artistic design. In *acheik* design, there are "seven elementary designs" in weaving for women's wear. These elementary designs are rope, twist, orchid, griffin flower, curled rope, rosella flower and royal princess. To be weaved as the *achiek*, a big rope is put in the middle as the main rope to be woven. And then, orchid, griffin and royal princess are put into the main rope. It is also waved with the speared ropes and supplementary ropes that stand aside.

Most *acheik* can be woven from three to seven elementary designs, but presently elementary designs of three to five are woven. High qualities of *Lun-Yar-Kyaw acheik* are woven as only the totally elementary designs. Moreover, almost all textile weavers in Amarapura weave the *achiek* designs by adopting modernized designs. By this way, the *achiek* designs and patterns are being modernized

according to current fashions in the weaving industry. Figure 5 shows some of those patters and designs (Shwe Htun 1970).

These patterns are 6-79 Grand Rope Sliver Twist, Sea Wave Chiek, Linked Orchid Rope, Sliver Twist, Five Strand Mount Meru Bow, Blended Rope, Satin Wave Rope, Four Strand Rope, Five Strand Rope, Figure Three Linked Leaves, Ruby Linked Leaves, Three Ply Rope and Orchid, Stain Wave Bud, Three Strand Rope, Single Strand Vine, Princess Royal Rope Big Flower and Orchid, Three Strand Flower Rope, Single Strand Rope, Strand Big Orchid, Jasmine Dainty, Curled Orchid Rope, Strand Orchid, Princess Royal Rope, Five Strand Orchid Rope, Three Strand Vine, Swan Orchid Rope, Princess Alone, Great Mount Meru, and Big Rope Chiek. The modernized design of *Kyo Gyi Cheik* was still expected to be strong from 2013 to 2014, according to the analysts interviewed from weaving industry in Amarapura Township (Than Tun and Aye Myint 2011).

A silk cloth industry worker in Amarapura Township once said: "In the past two years, the design called *Pa-ra-paik* (smaller cord embroidery) was very popular. But this year, both youth and elder people enjoy this design of *Kyo Gyi Cheik* that has becomes fashionable again in the market. The design of *Pa-ra-paik* achiek, is just two to three inches wide line but the design of *Kyo Gyi Cheik* that is fashionable again in ceremonies and receptions. This *achiek* design adds floral, arabesque patterns on the design of *Kyo Gyi Cheik* and is the most popular."

In artistic design, there are three kinds of change in the weaving industry. These are knitting by hand, painting on film, and painting by hand with mosaic jewels. In knitting by hand, the desired designs are plotted on the garment by drawing the patterns the first time. And then, the knitting on this design can be made by using different colors of threads of yarn. However, nowadays, the common designs are produced by painting on films. This film is placed on the garments that are easily painted. This method is easy and quick. The production is more easily done. The *achiek* designs and traditional designs are produced by using this method. The desired designs and patterns are drawn on the garments with painting by hand. In painting by hand with mosaic jewels, the artists must be skillful of painting. Firstly, the designer draws the desired design and paint on this design. Moreover, the garments are decorated and produced knitting by machines (computerized), knitting by sequins and knitting by threads and then created a new design in which a side line fringed with diamond stones.

Labor and Market Changes

Concerning labor and market, there are many changes in opportunity, wages, productivity, skilled labor, prices and trading areas. Labor opportunities have increased with the changes of technologies, as weavers make fabrics by power looms, which has speeded up production and lowered the cost of weaving, allowing the industry to make more product in the less time. As a result, the laborers get higher wages. The stakeholders benefit from the productivity of skilled laborers. For consumers, there are a few changes in market prices, trading and marketing locations. Besides, some weaving industries have opened residence-camp in the study area. Most of the consumers come to buy fabrics directly in Amarapura; therefore the market area has been expended form Mandalay Zay-gyo to Amarapura urban area.

Most people wear the new modern *Kyo Gyi Cheik* to attend at least 75 percent of ceremonies and wedding receptions in Myanmar today (Lwin 2012). At temple donation ceremonies, people enjoy the normal *Kyo Gyi Cheik* in great style while they choose designs with golden and diamond stones in wedding ceremonies in the past two years. Both youth and elderly people enjoy this design that has become fashionable one in the market.

The price of *Kyo Gyi Cheik* design ranges from MMK 600,000 to MMK 1 million (USD \$453 to USD\$ 756). The price of the *Para-Paik* design ranges from MMK 300,000 to MMK 500,000 (USD \$226 to USD \$378). These price changes reflect market demand and consumers' satisfaction.

In former times, most people purchased the woven products only in the Mandalay "Zay Gyo" market. Nowadays market access has expanded beyond these traditional areas to customers across the country. Most of big factories have engaged together with residence shops and workshops in Amarapura. So, the trading, market areas and its economic structure are widespread (Figure 6).

SWOT Analysis on Weaving Industry

We conducted a Strength, Weakness, Opportunity, and Threat (SWOT) analysis to evaluate the industry's competitiveness, and the results demonstrate the strength of the weaving industry (Hussain et al 2009). Amarapura was a royal city where arts and crafts, including weaving, have flourished for centuries. For that reason, the area has a flourishing supply of skilled labor. During the period of 1952 to 1953 the Saunders Weaving Institution (SWI) rejuvenated traditional crafts with modern weaving production techniques and practices (UNESCO 2020). The SWI advanced this revival by teaching basic and advanced courses in weaving technologies and dyeing methodologies. As Figure 7 shows, the improvements in weaving technology and product quality gradually developed, which increased greater and greater product demand. As a result, the weaving industry has expanded with commensurate extension of associated markets. Increased market demand is related to, first, population increase, and secondly, to capitalizing and expanding on an existing well-known market.

As for weaknesses, some enterprises have had problems securing capital for upgrading, in contrast to those larger enterprises that are able to make the investments. Except for those leading enterprises, knowledge of the marketing system is still poor for smaller marginalized players. The majority of smaller scale enterprises lack resources to invest in marketing, which diminishes their potential for opportunities and expansion. Local and foreign tourists visit popular silk wear shops, but foreign export markets are mostly out of reach for small-scale producers in the Amarapura weaving industry.

Changes in technology, improved product quality and greater market demand has created demand for labor, which has given more job opportunities to the poorer rural and urban classes of Amarapura. This has upgraded the weaving sector from the level of a small-scale cottage industry to a modern industry. The industry is well positioned to compete internationally with Chinese and Thai designs and thus exploit the intrinsic value of Amarapura's traditional weavings.

Because of changes and development in the traditional weaving industry, woven products now have great potential to tap export markets. As development of the weaving industry continues, and so it can also be expected that the economic development of the study area can be improved. However, these developments may expose Amarapura to potential environmental hazards and creates impacts upon human health. Furthermore, the fluctuations of market demand have economic consequences for the weavers of Amarapura. If product quality cannot be systematically controlled, the export products of international competitors will threaten the small-scale cottage weaving industry.

The result of SWOT analysis reveals that positive aspects for weaving industry are ranked at nine (9) and the negative is six (6). Therefore, the positive aspects outweigh the negative by three (3), which gives evidence for the long- term development of the weaving industry in this area (Figure 7).

CONCLUSION

The weaving industry has a centuries-long and traditional role in the study area and has undergone enormous economic and technological changes during this time. The traditional handloom is still in active use in the weaving industry, while hand throwing technology diversifies the industry's strengths in the modern economy. Nowadays, however, the power loom has the greatest scope for new investment, which may be the linchpin leading the weaving industry to survive and prosper in Amarapura.

Textile design and patterns keep pace of fashion trends by drawing with acrylic and those designs with some materials. According to the demand of the consumer, the desired designs and patterns can be portrayed on the garment by painting on film, painting by hand, and knitting by hand. Depending on the market demand, technological development, design and pattern adoptions, labor supply and skill, and marketing has continuously changed over time and adapted to new economic conditions. We envision that opportunity; social and educational problems will become new challenges as the industry develops.

ACKNOWLEDGEMENT

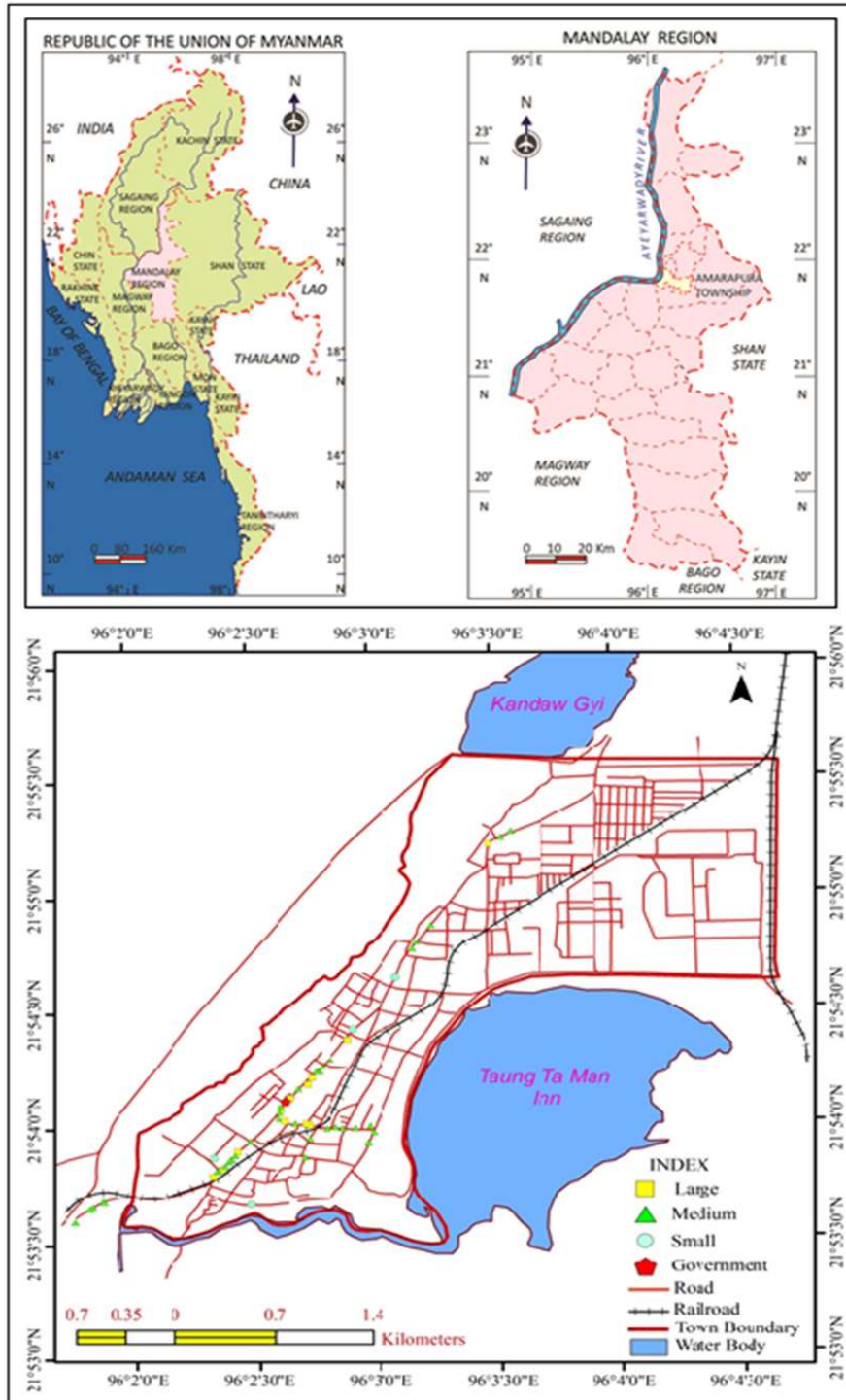
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REFERENCES

- Hussain, D, Figueiredo, M., & Ferreira, F. (2009). SWOT Analysis of Pakistan Textile Supply Chain.” *ResearchGate Website*. Retrieved October 12, 2020, from <http://www.researchgate.net/publication/228447616>.
- Lwin, S.T. (2012). Kyo Chi Gaik Makes a Popular Comeback. *Myanmar Times Website*. Retrieved from September 1, 2020, from <https://www.mmtimes.com/special-features/149-your-wedding/2776-kyo-gyi-chaik-makes-a-popular-comeback.html>.
- Mytelka, L.K. (1991). Technological change and the Global Relocation of Production in Textiles and Clothing. *Studies in Political Economy*, 36(1), 109-143.
- Rozentals, J. (n.d.). Weaving History. *Weave Design Website*. Retrieved October 12, 2020, from <https://www.weavedesign.eu/weaving/>.
- UNESCO. (2020). Organization – Saunders Weaving and Vocational Institute. *Intangible Cultural Heritage Platform for Asia and the Pacific (ICHCAP) Online Community*. Retrieved October 15, 2020, from <https://net.unesco-ichcap.org/saunders-weaving-and-vocational-institute/>.
- Shwe Htun, U. (1970). *Textile Design*. Yangon: Lin–Yaung-Thit, Kyaungmyaung.
- Tanusree, S. (2015). A Study of the Present Situation of the Traditional Handloom Weavers of Varanasi, Uttar Pradesh, India. *International Research Journal of Social Sciences*, 4(3), 48- 53.
- Than, T., & Aye Myint, U. (2011). *Ancient Myanmar Deigns*. Bangkok: I Group Press.
- Tint Tint, Ma. (2014). The 100 year of journey of Saunders Weaving School. *Saunder Weaving Institute Magazine*, pp. 51-55. Amarapura, Myanmar.
- Township Administration Department. (2014). Township Record. Provided by Amarapura township government.
- Worbin, L. (2010). Designing Dynamic Textile Patterns. Ph.D. Dissertation. Department of Computer Science and Engineering, Chalmers University of Technology.

APPENDIX

FIGURE 1
STUDY AREA, AMARAPURA, MANDALAY REGION



Source: Department of Geography Mandalay University

FIGURE 2
CHANGING TREND IN WEAVING INDUSTRY OF AMARAPURA

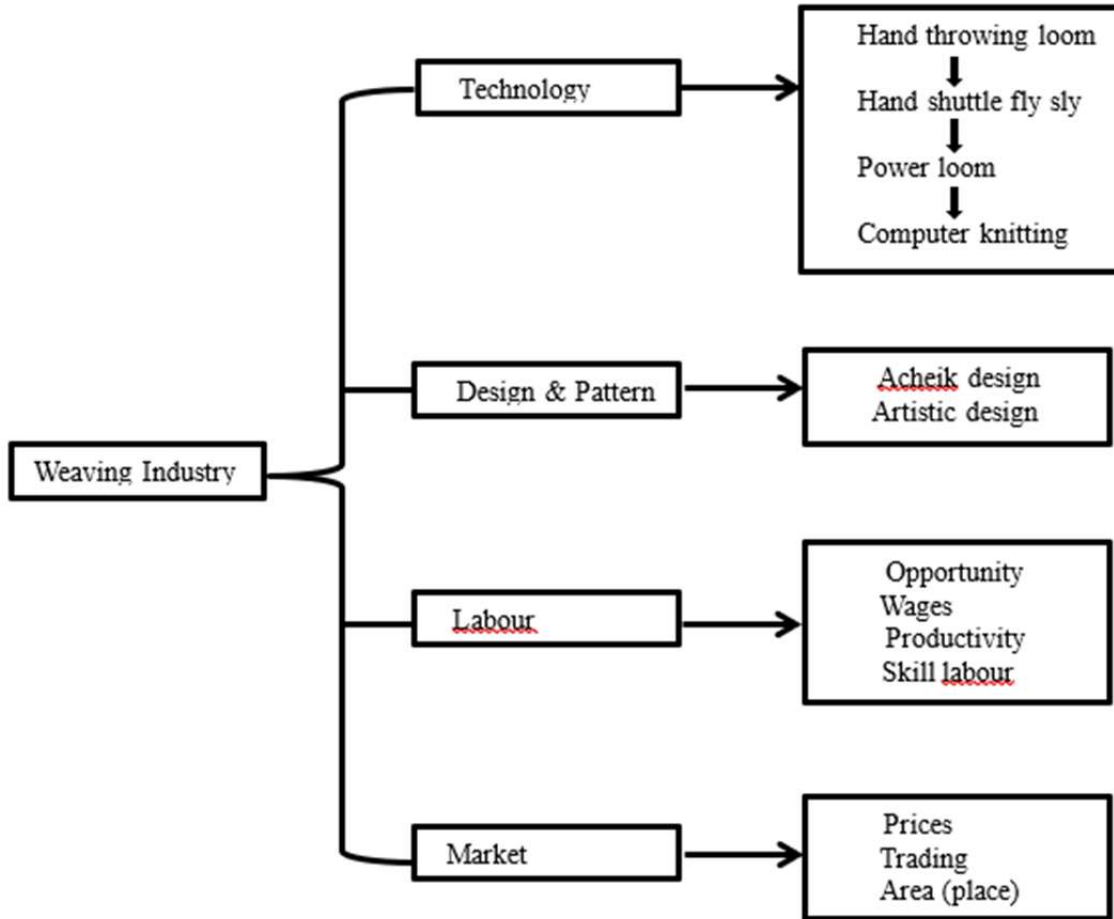


FIGURE 3
TECHNOLOGY CHANGES

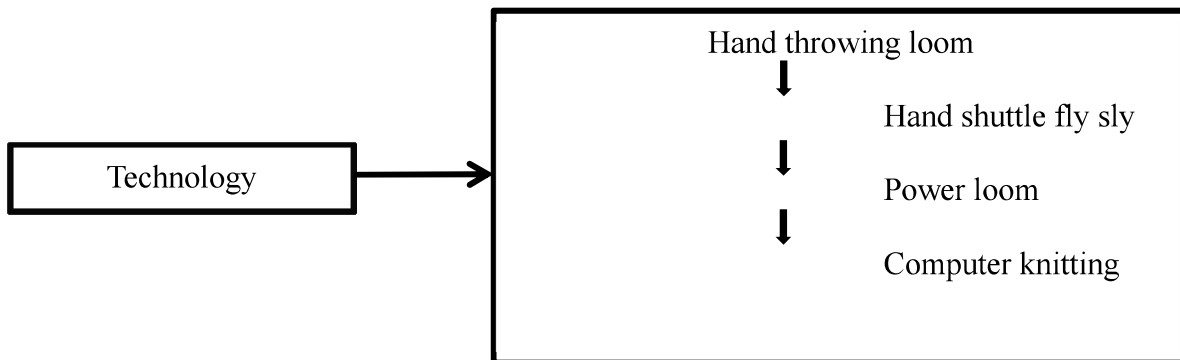


FIGURE 4
DESIGN AND PATTERN CHANGES

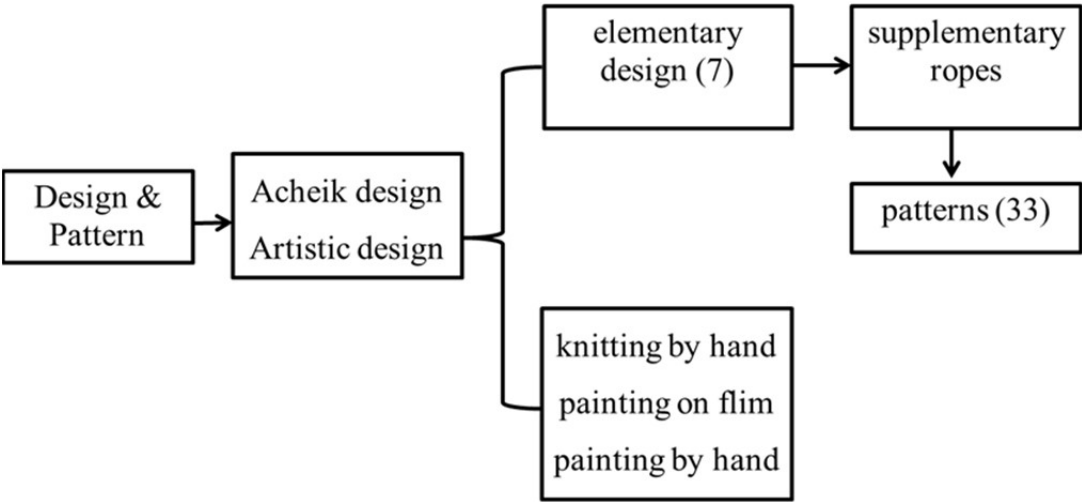


FIGURE 5
DIFFERENT PATTERNS AND DESIGNS OF WEAVING INDUSTRY



Hand Loom Design



Hand Loom Design



Knitting by Hand



Painting on film



Power Loom Design



Computerized Design



Computerized Design



Mosaic Computerized Design

**FIGURE 6
LABOR AND MARKET CHANGES**

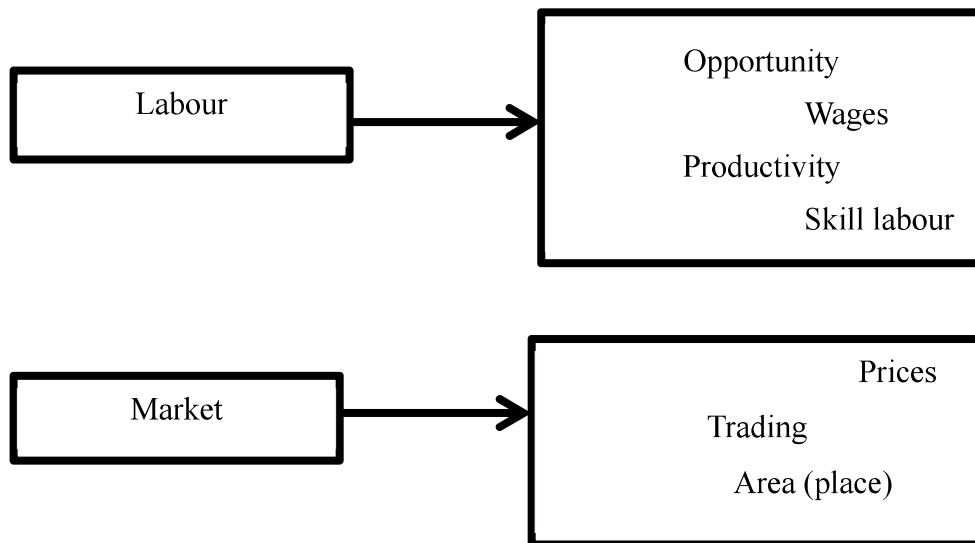


FIGURE 7
SWOT ANALYSIS ON WEAVING INDUSTRY

<p>STRENGTH</p> <p>Traditional Work</p> <p>Skill Labour</p> <p>Training School</p> <p>Well-known Market and Greater Demand</p>	<p>WEAKNESS</p> <p>Modern Technology</p> <p>Investment</p> <p>Marketing</p> <p>Foreign Export</p>
<p>OPPORTUNITY</p> <p>Job Opportunity</p> <p>Extended to Larger One</p> <p>Market Competition</p> <p>Economic Development</p>	<p>THREATS</p> <p>Pollution</p> <p>Market Demand</p>