

**International Research Journal of Engineering, IT & Scientific Research** Available online at https://sloap.org/journals/index.php/irjeis/ Vol. 7 No. 5, September 2021, pages: 176-184 ISSN: 2454-2261 https://doi.org/10.21744/irjeis.v7n5.1901

# Loom & Barter in the Production and Trade of Hammocks and Saddlebags: An Ancestral Approach



Telly Yarita Macías Zambrano <sup>a</sup> María Gema Rodríguez Zambrano <sup>b</sup> Carmen Liliana Mera Plaza <sup>c</sup>

Article history:

Abstract

Submitted: 27 June 2021 Revised: 18 July 2021 Accepted: 09 August 2021

**Keywords:** 

barter; hammock; loom; saddlebag; trade; The work is a recovery of ancestral knowledge, whose objective was focused on rescuing the knowledge of the production of hammocks and saddlebags, and its commercialization using barter, just as the aboriginal ancestors of the Manabí territory did. Field research and an interview applied to a connoisseur of ancestral knowledge, a native of the Montecristi canton, were used as a method. The results were the traditional knowledge of the production of hammocks and saddlebags using the spindle and the loom, and the forms of commerce used and transmitted from generation to generation in these rural communities descended from aboriginal cultures. Conclusions were reached such as the importance of recovering the ancestral knowledge of the cultures from which we descend as part of the intercultural wealth and popular customs linked to this territory.

International research journal of engineering, IT & scientific research © 2021. This is an open access article under the CC BY-NC-ND license (https://creativecommons.org/licenses/by-nc-nd/4.0/).

Corresponding author: Telly Yarita Macías Zambrano, Instituto Superior Tecnológico Paulo Emilio Macías, Portoviejo, Ecuador. Email address: itspem.tmacias@gmail.com

<sup>&</sup>lt;sup>a</sup> Instituto Superior Tecnológico Paulo Emilio Macías, Portoviejo, Ecuador

<sup>&</sup>lt;sup>b</sup> Instituto Superior Tecnológico Paulo Emilio Macías, Portoviejo, Ecuador

<sup>&</sup>lt;sup>c</sup> Instituto Superior Tecnológico Paulo Emilio Macías, Portoviejo, Ecuador

# **1** Introduction

The international market demands useful products, valuing the design and creativity of the artisan, as well as the materials used. The artisans have in the differentiating factor that the world is demanding, especially the exclusivity of the designs they can offer and the stories behind the elaboration. For this, it is necessary to consider exports as a means to learn to improve and diversify the business, acquiring new knowledge that will increase competitiveness. Among the markets with opportunities for this segment are: United States, Spain, United Kingdom, Germany, Holland, France, Russia, Hong Kong, and Japan (CienciaSoledispa, 2021).

Historically and worldwide, the main importing country is the United States and the countries of Europe. There are also opportunities in other regions such as the Middle East, Australia, and Asia. The artisan sector represents 15% of the occupation in the manufacturing sector with approximately 350,000 people. It is also identified for using mainly natural resources as a basic input in the elaboration of its products. In Ecuador, handicrafts are one of the most admired and recognized products worldwide for being artistic pieces that combine creativity, talent, and ancestral heritage, thus becoming a cultural manifestation of the country's autochthonous roots and traditions; For that reason, the materials that are used by artisans range from paintings, necklaces, fabrics, fabrics, among others (Pinto & Reyes, 2014).

In addition, the importance that the elaboration of textile products such as hammocks and saddlebags has acquired has allowed to increase production, innovate designs and even penetrate a little more in the market where they are made known in which an assessment is made to culture (Feng et al., 2020; Bilgin, 2012; Savani et al., 2015). Hammocks are produced in large quantities by indigenous artisans. They are made in different materials and models: cotton hammocks made on a pedal loom and dyed with natural dyes, they have simple colors and simple designs, hammocks made of synthetic material, they are made on electric looms, they have many color combinations and various indigenous designs. They are a combination of cotton and orlon, hammocks seats, they are a quite comfortable option for the consumer in terms of physical space, they are generally made on a cotton base, due to their resistance and durability, chair hammock is a beautiful complement to Any corner of a room or terrace, the wooden bars in their natural color, give them a better and luxurious appearance and comfort, rectangular hammocks to recline can have a capacity for up to two people (Maldonado Acosta & Sesme Villamar, 2015).

The hammock is in the industrial sector of textile manufacturing, but it lacks some strategic links in the production chain. In the past, hammocks were made with vegetable fibers such as cabuya and pita, but, as a result of the cotton boom of the 1950s, they were replaced by cotton, which is a more versatile raw material and represents 67% of the costs of production, since only 15% is used to pay for labor (Rojas et al., 2006). The Manabí hammock is no longer woven with cotton, pita, or cabuya, nor is it dyed with dyes and anilines. Now it is made of nylon and polyester thread, although there is a trend to use vegetable fiber again. In any of the materials, this object is maintained thanks to the hands of artisanal fishermen, who weave it with the skill they inherited from their parents and grandparents.

Like the hammock, the saddlebag is considered an artisan good, which is a symbolic representation of the Lojano people. The Palta population is settled in the southwestern cantons of the province, and this was the one who propagated the use of the saddlebag, although the origin of this good is unknown. Currently, this article is used more frequently in rural areas. The making of this craft is done manually and with fabric, in its structure, it has two large pockets to place items that we need on a long-distance trip (Arias, 2014). The saddlebags can be personal and also used as large bags, the personal one has a capacity of up to 20 pounds, while the large ones support a weight of up to two quintals and are often placed on the back of horses or donkeys. A strip loom made with selected woods serves to weave the threads of thread that form the fabric, which will form the saddlebag. In the end, the edges are finished to guarantee resistance.

The saddlebags are woven wool with a shovel, longer than wide, in a plain or striped color, with the same fabric turning on both ends to form pockets. If the saddlebag has symmetrical or floral designs, it must be made before closing the pockets and with the piece on the frame. The decoration comes in two variations: plush in relief or with flat, extended threads. In both cases, it is a type of Spanish embroidery made with a needle. The saddlebag, which is worn across the saddle, has braids or bundles of cordoned threads that serve as a closure for each pocket. As an ornament, it ends, at the tips, with wool acorns, pompoms, or strawberry trees (Lara, 2017). The elaboration of these crafts is an art, which is transmitted from generation to generation and that is why they are made of different kinds, including those made from La Pita de Mezcal that comes from the Henequén plant, the particularity of this fiber was which is quite rough and thick to the touch, making it a very resistant and durable material (Parra & Tamayo, 2018).

Zambrano, T. Y. M., Zambrano, M. G. R., & Plaza, C. L. M. (2021). Loom & barter in the production and trade of hammocks and saddlebags: an ancestral approach. International Research Journal of Engineering, IT & Scientific Research, 7(5), 176-184. https://doi.org/10.21744/irjeis.v7n5.1901 In the previous sections, two artisan articles that are designed by people were mentioned, the hammock and the saddlebag, these goods have a process behind their elaboration, in addition to the labor that makes it, there is an instrument, the loom. A loom is a machine for weaving, which has various modes of operations, one involves the movement of hands, others include pedals, and there are other mechanics (its use is more common in the textile industry). The loom is the fundamental element of the weaving process; It is the structure that tightens and holds the threads that will frame the weaver's work, keeping them organized and with adequate tension while another thread (called the weft) is crossed with them. This is how the final fabric is created (Compton et al., 2017; Cole, 2004; Choi, 2010). Once the work is finished, the resulting piece is usually dismantled from the loom to be exhibited separately. Therefore, the loom is a tool that is used for weaving but that does not necessarily remain integrated into the final product. The loom is the working tool and element of identity in the Sierra. The Salasaca indigenous community, the Guano canton, and the Pilahuín parish are Andean communities where the tradition of making clothing in old and striking artisan workshops is still maintained. However, this artifact constitutes one of the work tools, in addition to being a valuable element of identity, most significant in the central Sierra. The loom constitutes a rudimentary machine designed to weave all kinds of tapestries, certain garments, and textile accessories for daily use, such as ponchos and scarves (Novoa, 2019).

Regarding the commercialization of hammocks and woven saddlebags, barter has played a very important role as an element of exchange, since it arises from the need to obtain something that is required, or to exchange one product for another; This has been of great benefit to the world since through it products are thus obtained in times of economic difficulties for society (Loureiro & Lotade, 2005; Salameh & Jaber, 2000). We cite as an example, the case of an artisan who lives in a rural region of the sierra, he owns a loom, through which he makes hammocks and saddlebags, but society at that time is going through a pandemic, which limits people to leave the house and carry out their normal tasks, so their production has not gone on sale, so near the area there is a neighbor who has a farm, cattle and agricultural production, Mr. del Telar goes to the neighbor who owns farms, won, etc. and he proposes to exchange a hammock and a two-quintal saddlebag that will serve to mobilize his production, then the neighbor agrees and they decide to carry out the commercialization through barter.

As can be seen in the preceding paragraph, even though bartering was the first form of commercialization, it can occur at any time in life according to the circumstances that arise. Barter, called the first marketing system, had the principle of establishing harmonious coexistence through the exchange of goods or products based on the supply and demand existing in the market, this being a system that established both an internal and external link to the level of a nation, had its significant modifications over time due to the need of people to obtain profits on the product offered, managing to give a value to each of these, thus initiating the era of the mercantile system (Artieda, 2017). Benálcazar (2020), affirms that barter is "the exchange of goods and services without using money, that is, barter, is a practice that is growing in the country. Barter is nothing more than a relationship of needs. It implies that someone has what another need".

Consecutively, in relation to what was expressed in the previous section, there are several research topics that have emerged from the academy, some of which have been developed by the Paulo Emilio Macias Higher Technological Institute, when the Creativity Recognition Contest was born, knowledge, ancestral knowledge and technological innovation of the students "Crea Ingenios", some knowledge has been rescued in different areas, be it agri-food, artisanal, and others; In this way, knowledge has been recovered in the implementation of eras, cocoa paste production (Macías et al., 2019), traditional butter (Macías et al., 2019), organic rennet, bark of the royal ceibo (Macías et al., 2019), slider for drying cocoa (García & Macías, 2020), tagua salprieta, medicinal plants, panela sweetener, corn planting (Alcívar etal., 2021), black soap (Macías et al., 2021), extraction of earth honey, vegetable tincture, ancestral looms, stick bean coffee (Pin et al., 2021), snacks from breadfruit (Jurado et al., 2021), achiote paste (Soledispa-Rodríguez, 2021), hammocks, etc. In this regard, the present work aims to recover the ancestral knowledge of the production of hammocks and saddlebags using the loom and the commercialization of these products through barter.

# 2 Materials and Methods

Different materials were used in the elaboration of hammocks and saddlebags, such as Nylon, Silk, Cotton with a thin thread, henequen, pita or cabuya, polyester fibers or polypropylene, frame, needle, Thread according to the size that you want to reach, loom, baton, shuttle, slats, temper, winder or winder among others. was used for the compilation of the information was the field, through the application of an interview with Mr. Pedro Posligua

Quijije, weaver of hammocks, saddlebags, and other handicraft products made with the loom, who has been dedicated to this activity since in 1965, from whom the ancestral knowledge transmitted by their parents and towards them by their ancestors was recovered, who had the Montecristi canton as their place of origin. In figure 1 the location of the handicrafts can be seen.



Figure 1. Location of sale of hammocks and saddlebags "Montecristi Handicrafts"

# **3** Results and Discussions

As a result of the application of the interview, the ancestral knowledge of the elaboration of hammocks and saddlebags could be rescued, which can be graphically visualized in Figure 2 corresponding to the flowchart of the hammock production process.



Figure 2. Flow chart of the hammock production

## Description of the process

The technique used to make the hammock is weaving In a vertical loom or high smooth which consists of a frame or frame that holds a group of vertically arranged threads (warp) taut and parallel, which will be crossed by a series of horizontal passes (weft) to form the fabric. The type of fabric that is made is called - flat fabric - which is rigid or does not allow greater stretching. Products made on a vertical loom are flat, warp-faced fabrics, that is, the predominant color in the fabric, the weft in general, is not very noticeable.

The process normally used is: dyeing or dyeing the yarn with either plant or chemical dyes; tender or starch, which consists of preparing a mixture of starch, letting it rest, and passing the threads through the mixture so that they take on a rigid consistency (Norgate et al., 2007; Shahidi et al., 1995). Then it is exposed to the sun to dry completely and take to the manual winder; In the winding stage, the artisan winder is used, to wind the threads in such a way that the colors can be separated, spin by skeins in such a way as to facilitate the use of the loom; Later the loom is assembled, this process consists of organizing the threads in the vertical loom according to the colors and design chosen by the client, in this stage the palette is used, a palette-shaped tool made of rigid wood, which It is used to temper the threads that give the cloth its consistency, for this characteristic, it is known and distinguished from the rest of the vertical weaving; Finally, in the finishes, which is the final process, there is the header, which consists of placing the rings where it will be hung, this is done as part of the polishing details of the final product. In figure 3, you can see the flow chart for making the saddlebags.



Figure 3. Process flow chart for making saddlebags

## Description of the process

For weaving saddlebags with cotton thread, it is first ginned, that is, the seed is removed from the cotton; then tease him by separating the fiber. Spinning requires the spindle, which rotates in the hands of the spinners. This thread is stored in the form of a speck (ball). After the spinning is finished, the yarn is woven into four stakes and then placed on the loom. As it is woven, the hillagua is raised so that the crossing takes place, for the weaving point. The elements of the loom are: Maca or hammock Pallaco Hillagua Caigua. Pin. Chargers once the fabric is finished, put on the cairel (edges of the saddlebag braided by hand). The saddlebags have designs in which threads of various colors are combined. The colored threads that are currently used are purchased.

#### Ancestral

knowledge Ancestral knowledge is traditional knowledge preserved over time, but with the passing of this it is also lost due to the little interest and importance that is taken, this is the case of the loom and barter in production and trade hammocks and saddlebags, considered an ancient approach. After the investigations carried out and the interview carried out with a person with knowledge of this ancestral knowledge, I can state that the making of hammocks and saddlebags through the loom is a craft that has disappeared over time, without stopping to think that the elaboration of these products could give way to a new form of income, through undertakings that are following that of this activity. It is important to recover ancestral knowledge since through them we can honor our ancestors

Zambrano, T. Y. M., Zambrano, M. G. R., & Plaza, C. L. M. (2021). Loom & barter in the production and trade of hammocks and saddlebags: an ancestral approach. International Research Journal of Engineering, IT & Scientific Research, 7(5), 176-184. https://doi.org/10.21744/irjeis.v7n5.1901 who with effort and dedication produced hammocks and saddlebags on looms, wherein time they were not made to exchange it for money but with some other good or equal value that was needed, in this way the trick arose, which became part of the production and marketing of saddlebags and hammocks.

# 4 Conclusion

The production of hammocks and saddlebags using the loom and the commercialization of these products through barter has been an ancestral knowledge that has been lost over time, this is affirmed because an exhaustive search was made in some rural sites from the province of Manabí who were dedicated to the production and marketing of the aforementioned articles, in the attempt, it was possible to find one who is dedicated to the elaboration of hammocks and woven saddlebags using the spindle and the loom and the dyeing with vegetable dyes. The production of hammocks and saddlebags on a loom is an activity of rural populations, where commercialization can also be carried out through barter with these products and others of social need.

The elaboration of the articles in question has similar processes, both require thread, fabric, cotton, etc. to begin its elaboration, adding to these colors, them the thread has loomed and weaving begins, in the case of hammocks the process ends in the weaving and the placement of rings, and in the case of saddlebags After being woven, the braiding is carried out by hand, in addition, geometric shapes can be added to the design of the fabric. The production and commercialization of hammocks and saddlebags on the loom is a good way to undertake and recover ancestral knowledge, in addition, to this we can include not only the current form of commercialization (the currency), but the commercial form of barter, since sometimes it is not the money that we need, but the obtaining of a good that cannot be easily acquired.

Conflict of interest statement

The authors declared that they have no competing interests.

#### Statement of authorship

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

## Acknowledgments

We are grateful to two anonymous reviewers for their valuable comments on the earlier version of this paper.

# References

- Alcívar, J., Giler, L., Sancán, D., & Menoscal, G. (2021). The monoculture of corn (zea mayz) and its impact on fertility soil. *The International Journal of Chemical & Material Sciences*, 4(1), 7-12.
- Arias, L. (2014). The saddlebag is an inheritance of the indigenous avocados. Trade, p. 14.
- Artieda, G. (2017). The role of L1 literacy and reading habits on the L2 achievement of adult learners of English as a foreign language. *System*, *66*, 168-176. https://doi.org/10.1016/j.system.2017.03.020
- Benálcazar, W. (2020). Barter energizes products and services. Lideres, 1.
- Bilgin, B. (2012). Losses loom more likely than gains: Propensity to imagine losses increases their subjective probability. *Organizational Behavior and Human Decision Processes*, 118(2), 203-215. https://doi.org/10.1016/j.obhdp.2012.03.008
- Choi, C. (2010). The effect of the Internet on service trade. *Economics Letters*, 109(2), 102-104. https://doi.org/10.1016/j.econlet.2010.08.005
- CienciaSoledispa, C., Jiménez, I., & Galarza, L. (2021). Financial evaluation of annatto paste production from ancestral knowledge in Manta Blanca. *International Journal of Economic Perspectives*, 15 (1), 38-48.
- Cole, M. A. (2004). Trade, the pollution haven hypothesis and the environmental Kuznets curve: examining the linkages. *Ecological economics*, 48(1), 71-81. https://doi.org/10.1016/j.ecolecon.2003.09.007
- Compton, K. E., Kirkpatrick, J. D., & Holk, G. J. (2017). Cyclical shear fracture and viscous flow during transitional ductile-brittle deformation in the Saddlebag Lake Shear Zone, California. *Tectonophysics*, 708, 1-14. https://doi.org/10.1016/j.tecto.2017.04.006
- Feng, Z., Yang, S., Jia, S., Zhang, Y., Jiang, S., Yu, L., ... & Jia, X. (2020). Scalable, washable and lightweight triboelectric-energy-generating fibers by the thermal drawing process for industrial loom weaving. *Nano Energy*, 74, 104805. https://doi.org/10.1016/j.nanoen.2020.104805
- García, I., & Macías, T. (2020). Cocoa drying system using ancestral sliding. *International Journal of Life Sciences*, 4 (1), 42-49.
- Jurado, G., Andrade, Y., & Mera, C. (2021). Viability and artisanal production of bread fruit snacks from ancestral knowledge. *International Journal of Life Sciences & Earth Sciences*, 4 (1), 11-18.
- Loureiro, M. L., & Lotade, J. (2005). Do fair trade and eco-labels in coffee wake up the consumer conscience?. *Ecological economics*, 53(1), 129-138. https://doi.org/10.1016/j.ecolecon.2004.11.002
- Macías, T., García, A., & Briones, J. (2021). The fruit of the pine nut (Jatrophas curcas) in the production of traditional soap: Recovery of ancestral knowledge. *International Journal of Chemical & Material Sciences*, 4 (1), 1-6.
- Macías, T., García, I., Mera, C., & Munoz, R. (2019). Recovery of ancestral knowledge for production of traditional Manabí cocoa paste. *International Journal of Life Sciences*, 3 (1), 71-78.
- Macías, T., Gorozabel, O., Mera, C., & Munoz, R. (2019). Recovery of ancestral knowledge of the use of leaf and bark towards royal ceibo. *International Journal of Life Sciences*, 3 (1), 41-47.
- Macías, T., Zambrano, K., Mera, C., & Munoz, R. (2019). Recovery of knowledge for the conservation of traditional Manabi white butter, in tender guadúa cane. *Caribeña de Ciencias Sociales*, 1-10.
- Maldonado Acosta, M., & Sesme Villamar, C. (2015). Financial study of the commercialization of hammocks of the Isidro Ayora canton in the Las Mercedes enclosure, lowered a commercial identity of the product. Guayaquil: University of Guayaquil.
- Norgate, T. E., Jahanshahi, S., & Rankin, W. J. (2007). Assessing the environmental impact of metal production processes. *Journal of Cleaner Production*, 15(8-9), 838-848. https://doi.org/10.1016/j.jclepro.2006.06.018
- Novoa, C. (2019). The loom is a work tool and an element of identity in the Sierra. The telegraph, p. 11.
- Parra, A.I., & Tamayo-Osorio, C. (2018). Problematizing the knowledge / power relations of Ethnography in Ethnomathematics. In 6th International Congress of Ethnomathematics.
- Pin, S., Sancán, Z., & Macías, T. (2021). Feasibility of the production of traditional palo bean coffee: an ancestral vision in barranco colorado. *International Journal of Economic Perspectives*, 15(1), 49-61.
- Pinto Menendez, M.J., & Reyes Vargas, D.S. (2014). Commercial advisory proposal of the hammock producers of the Isidro Ayora canton for export to Spain. Guayaquil.
- Rojas, D., Escobar Mayorga, K., Corea Quintana, E., & Avilés, L.A. (2006). camjol.info.
- Roxana, PS, & Tamayo Contreras, P. (2018). Handmade Hammocks As An Export Product. Jovenes en la, 1273.
- Salameh, M. K., & Jaber, M. Y. (2000). Economic production quantity model for items with imperfect quality. *International journal of production economics*, 64(1-3), 59-64. https://doi.org/10.1016/S0925-5273(99)00044-4

Zambrano, T. Y. M., Zambrano, M. G. R., & Plaza, C. L. M. (2021). Loom & barter in the production and trade of hammocks and saddlebags: an ancestral approach. International Research Journal of Engineering, IT & Scientific Research, 7(5), 176-184. https://doi.org/10.21744/irjeis.v7n5.1901

- Savani, K., Wadhwa, M., Uchida, Y., Ding, Y., & Naidu, N. V. R. (2015). When norms loom larger than the self: Susceptibility of preference-choice consistency to normative influence across cultures. *Organizational Behavior* and Human Decision Processes, 129, 70-79. https://doi.org/10.1016/j.obhdp.2014.09.001
- Shahidi, F., Han, X. Q., & Synowiecki, J. (1995). Production and characteristics of protein hydrolysates from capelin (Mallotus villosus). *Food chemistry*, *53*(3), 285-293. https://doi.org/10.1016/0308-8146(95)93934-J
- Soledispa-Rodríguez, X.E., Sumba-Bustamante, R.Y., & Yoza-Rodríguez, N.R. (2021). Articulation of the substantive functions of Higher Education and its impact on professional training competencies. *Science Domain*, 7 (1), 1009-1028.