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Why is Applying a Complete Product Sorting Technique Essential for Empowering *Cococraft* Craftsmen?

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***Abstract*—Applying a complete sorting technique is essential for the empowerment of *cococraft* craftsmen. However, complete sorting is often overlooked. Mixed products make the price the same. The research objective is focused on studying the benefits of applying complete sorting techniques to the empowerment of *cococraft* craftsmen. The research location is a *cococraft* production center located in Purbalingga Wetan, Purbalingga Regency, Central Java Province, Indonesia. The types of research data are primary and secondary. The research method is a descriptive case study with a qualitative-quantitative approach. The results showed that most respondents simply sorted raw materials, shapes, and sizes. Few respondents did complete sorting. Complete sorting is beneficial in increasing the respondent's ability to group products according to quality, estimate the right price, reduce price cuts, increase service, speed up sales time, expand marketing, guarantee customer markets, ease of marketing, inflation, increased mutual trust, establish business cooperation and social relations. The price of *cococraft* with the whole sort is higher, thus increasing revenue. Complete sorting includes selecting raw materials, shape, size, organ integrity, physical strength, color, texture pattern, surface smoothness, production status, durability, and practical benefits. The application of complete sorting techniques needs to be continuously diffused to craftsmen so they can obtain various functional benefits that support empowerment. Critical diffusion comprises regular consultative advocacy facilities between experienced craftsmen and others.**

***Keywords*—*Cococraft*; craftsmen; empowering; quality; sorting technique products.**

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I. INTRODUCTION

Empowerment is a strategic effort to improve the quality of human resources so that they have productive, creative, and innovative behavior [1], [2]. Every empowerment requires the active participation of a strategic audience, and active participation is certainly based on awareness and intention. Participatory empowerment is required to move more flexibly to match the problems and needs in achieving independence [3], [4]. Independence in managing productive businesses based on local resources is one of the core objectives of empowerment.

Empowered residents are expected to independently manage local resources into value-added products sold in various market segments, such as handicrafts [5], [6], [7]. One community that has processed local resources, especially coconut waste, into *cococraft* is located in Purbalingga *Wetan* District, Purbalingga Regency, Central Java Province, Indonesia [8]. The area is a center for *cococraft* production. Cococraft is a handicraft product with a variety of distinctive and unique motif designs processed from coconut waste, whereas *cococraft* products are one of the leading commodities in the Purbalingga area. The raw materials for *cococraft* are wood parts and leftover coconut shells from the construction building industry, furniture, copra, and coconut pulp. Raw materials are sourced from the local environment. *Cococraft* production business is included in the economic activities of pro-conservation craftsmen, leading to environmentally friendly production [9].

The development of *cococraft* and other handicrafts has strategic potential as a source of productive livelihood for the community, including landless farmers, who have lost their ownership and cultivation rights to a plot of agricultural land. The status of a landless farmer has turned into a craftsman. Craft businesses using agricultural waste materials function effectively as a safety valve for a source of income for craftsmen [10], [11], [12]. These businesses still tend to have a micro-scale. However, handicraft production businesses,

including *cococraft* have not only economic functions but also social and environmental functions [7], [13], [14], [15], [16]. Social functions include absorbing workers from the surrounding environment who are unemployed due to being laid off and children dropping out of school. In connection with the interests of the function of the natural environment, several handicraft businesses utilize agricultural and industrial waste for raw materials. Of course, the existence of a craft production business is very meaningful to reducing the risk of waste as a pollutant in the surrounding environment.

The business of producing handicrafts made from agricultural waste is growing rapidly to meet the needs of tourism, ceremonial, domestic, celebrations, and other events [10], [11], [16]. Nevertheless, the craftsmen managing micro crafts, especially *cococraft,* are still semi-conventional. Only a few craftsmen use technology in the form of electrical and mechanical equipment [17]. The production process takes place semi-conventional so that the product still has the characteristic of handicraft with various motif designs [14], [18]. Mechanical equipment is used for cutting and splitting raw materials, shaving, and smoothing. Lamination and fastening of the raft are done manually. Mechanical machines serve to facilitate and speed up the work of craftsmen. Another function is to improve the quality of c*ococcraft* decoration with a contemporary motif design style. Considering the important function of the *cococraft* micro business for the sustainability of the economic and social life of craftsmen, so far, various types of empowerment have been carried out by the government together with researchers and servants from surrounding universities.

The adoption of technology in the production process encourages the improvement of the quality of *cococraft* and other types of crafts. Product decorations are artistically arranged and contemporary in style. There are also designed with natural and classic motifs. The craftsmen adapt the motif designs to market trends and customer consumer demands. Artisans produce classical, natural, and contemporary motif designs to meet local, regional, and national market demands. However, the complete sorting technique is one important step in post-production that is often not carried out by craftsmen. The sorting stage is still very simple. The craftsmen abandoned the complete sorting technique because the product sales system was carried out in bulk. That is, *cococraft* is sold according to type, shape, size, and function. Most craftsmen have not paid attention to the condition of quality, color, texture, dryness, and neatness of decoration, the appearance of variations in motif designs, the strength of raft binding, and the harmony of product organs. In comparison, a complete sorting technique is very important to help craftsmen distinguish between high, medium, and low-quality products [19], [20]. The inability of craftsmen to do sorting techniques certainly results in the price of each type of *cococraft* being equalized even though the quality is different. Sales that took place by wholesale caused the price increase of *cococraft* to be slow. Consequences continue to make it difficult for craftsmen to optimize their income.

Sorting does have an important function in supporting product promotion [21]. The sorting process cannot be separated from the development of packaging and branding technology, especially for agricultural products to be known by a wider market [22]. Another function is to get quality product categorization. Sorting has a significant relationship with price feasibility [23]. In addition, sorting also improves services that will satisfy consumers and remain loyal customers. The sorting process is believed to help empower craftsmen to produce quality *cococraft* products at a more reasonable price.

The problem of the behavior of craftsmen who are reluctant to sort *cococraft* with complete standards is due to several factors. One of the contributing factors is the pressure of time to pursue targets to meet market and consumer demands. The urgency of time has forced craftsmen to produce *cococraft* in a semi-finished tofu condition without full finishing. The management of the *cococraft* craft business is difficult to achieve maximum profit, so their condition is within the limits of subsistence ethics. Self-exploitation towards the adoption of complete sorting technology is still strong. Of course, this problem slows down the empowerment of *cococraft* craftsmen. The series of problems prompted the determination of the research theme to focus on the study of the strategic benefits of complete sorting for the empowerment of *cococraft* craftsmen.

II. Materials and Method

A. Materials

This research requires complementary primary and secondary data types. The types of data include standard criteria and sorting conditions that respondents have carried out, complete product sorting process, various factors causing complete sorting lags, different sorting conditions, variations in the value of the benefits of complete sorting for strengthening behavior, strategic needs, and various benefits of applying sorting techniques comprehensively to complete for empowerment. Primary data collection techniques were carried out through in-depth interviews with respondents and key informants, participating observations, and focus group discussions. Several theories and concepts derived from the thoughts of previous experts and relevant research results were traced as secondary data. Secondary data collection techniques are carried out by utilizing library research techniques.

B. Methods

1) Research design: The research design uses field research with descriptive case study methods. The research data's depth and completeness are maintained using qualitative and quantitative approaches [24]. Descriptive case studies are appropriate to examine in depth the problem of *cococoraft* craftsmen's inaction in conducting complete product sorting at the post-production stage. The research method is also feasible to reveal social facts about the empowerment of *cococraft* craftsmen through strengthening the will and ability to perform complete product sorting techniques. Objectivity and balance of complementary data are a priority, so this research uses an ethical and emic approach.

2) Research setting: The research location was deliberately set in Purbalingga Wetan Village, Purbalingga Wetan District, Purbalingga Regency, Central Java Province, Indonesia. The area selected as the research location is known as a center for handicraft production with coconut waste

materials, especially wood and shell parts. The coconut waste crafts business center, known as *cococraft* products, was started in 1997 by local residents, who initially worked as on-farm farmers and then switched to off-farm coconut waste craft businesses. The job shift occurred because the residents lost their agricultural land due to conversion to non-agricultural uses. The *cococraft* craft business is developing and absorbing local workers. This productive business also has the practical benefit of reducing the risk of environmental pollution by reducing the volume of coconut waste that continues to grow from time to time.

3) Population and Sample: The research population includes all *cococraft* craftsmen in the Purbalingga Wetan Village area. The determination of respondents was carried out using a purposive sampling technique. Some of the criteria that became the basis for consideration in selecting respondents were meeting the criteria for craftsmen as well as being the owner of a *cococraft* craft business, carrying out *cococraft* production activities, marketing *cococraft* products, and the location of the workshop in Purbalingga Wetan Village. Determination of the number of respondents is not done proportionally. However, respondents are determined according to the fulfillment of primary data needed to answer the formulation of the problem. The number of research respondents was 79 craftsmen. In addition to respondents, another primary data source is key informants who are determined using the rolling snowball technique. Key informants come from the *cococraft* traders and consumers. The number of key informants is 25 people. The total primary data sources are 104 people.

4) Data collection: All data collected was immediately processed and analyzed. Qualitative data analysis was carried out using Interactive Analysis Techniques [25]. Simple non-parametric statistics in percentage values, scoring, tabulation, and frequency distribution analyzed quantitative data. The results of data analysis are then interpreted and discussed in a systematic and logical descriptive description.

III. Results and Discussion

Respondents have a high motivation to produce *cococraft* to meet market demand and consumer orders in a timely manner. Such conditions are reasonable because every producer with an entrepreneurial spirit will try to improve satisfactory service for consumers [26], [27], [28], [29]. This technique is also considered an effective form of collaboration to maintain market security and consumer loyalty [5], [16], [30]. Social relations are more closely bonded by mutual trust [31]. It is just that there is a risk of a dilemma behind a timely production target. The dilemma in question resulted in the negligence of the majority (95 percent) of the respondents in applying the complete sorting technique. *Cococraft* product quality is lacking and not guaranteed, so each type's price is the same. All respondents did not dare to increase the price of *cococraft* for their old customers, and the price increase applies only to new customers. The price rate increase is relatively small, averaging 1-5 percent.

The reluctance of respondents to perform a complete sorting technique is due to the demand for a sense of responsibility to fulfill orders on time. More than 50 percent of respondents produce products that have not been completely processed. *Cococraft* surface is not flat and not smooth, and product appearance looks rough. The processing process is only semi-finished. The respondent's working principle is that the product is finished and can be immediately sold, and consumers use the foam. The majority (70 percent) of respondents pay less attention to quality issues. Likewise, 25 percent of respondents do not really care about the quality of the *cococraft.*

Respondents still pay less attention to the compatibility of the appearance of artistic decorations, variations in texture and color, neatness, smoothness, and durability of *cococraft.* Some of these conditions are important to be indicators of differentiating quality. Likewise, the organs' completeness and practical uses have gone unnoticed. Respondents did the sorting process so far in a simple and limited way. The new sorting results create product categories according to different types of raw materials, shape, and sizes of *cococraft.*

Sorting is done for booking purposes only. Sorting results are less able to distinguish between damaged and good products. Cococraft with damaged conditions and incomplete organs are still mixed with good and complete products. Respondent with the initials A, who is 40 years old stated about the sorting he has done so far in the following description:

> *"I have sorted the cococraft (from the production), but the method is still immensely simple. I differentiate the goods to be sold based on the type of raw material, shape, and size".*

Sorting criteria based on raw materials make *cococraft* categories into three groups: *cococraft* from coconut wood waste, coconut shells and a mixture of the two. The difference in *cococraft* based on the criteria of form classifies products according to practical benefits. There are special shapes for cooking utensils, eating and drinking utensils, bathing dippers, souvenirs, wall hangings, souvenirs, plant pots, tissue containers, candy boxes, cellphone boxes, pencil cases, flower vases, hanging lampshades, piggy banks for saving, accessories, wooden sandals, bird cages and various other unique and distinctive forms. Sorting according to size criteria differentiates *cococraft* into large, medium, and small product groups.

TABLE I
SIMPLE SORT CRITERIA AND *COCOCRAFT* PRODUCTION CONDITIONS

No.	Sort Criteria	Production conditions	Percentage (%)		
			1*	2**	3***
1.	Raw material	Coconut wood waste	15	82	3
		Shell waste	10	86	4
		Coconut wood and shell waste	12	80	8
2.	Shape	Domestic tools	13	82	5
		Souvenir	26	72	2
		Table and wall decoration	21	76	3
		Accessories	24	74	2
		Utensils cutlery	14	84	2
3.	Size	Small	13	85	2
		Medium	14	80	6
		Large	9	85	6

Description: *Full finishing and finished product
** Semi-finished products with minimal finishing
*** Semi-finished products that have not been finished

Sorting results from respondents indicate that most of the products are still semi-finished with minimal finishing (70

percent). The number of products that have full finishing is slightly around 5 percent. Another small part of *Cococraft*'s production is in the form of unfinished or finished products (25 percent). Three criteria as a simple sorting reference for product classification as in Table 1.

Observed from the applied behavior of the sorting technique, it is known that categorization of respondents appears in three phases. Table 1 above shows that phase 1 includes respondents who have fully implemented the sorting technique. The number of respondents in phase 1 is small, only 5 percent. Phase 2 is for respondents who are in the initial process of starting the application of the complete sorting technique. The phase 2 respondents reached 70 percent; they are still evaluating their ability to complete product sorting. Respondents belonging to Phase 3 have not done the sorting technique completely, even though they are interested and interested in practical and economic benefits. Fewer respondents were included in Phase 3, namely, 25 percent. Several interrelated causal factors determine differences in behavior in applying the complete sorting technique to all respondents.

Sorting *cococraft,* which is still simple and minimal, is caused by various factors. One of the dominant factors is the fulfillment of the high demand for *cococraft*. The volume of demand for *cococraft* from various market segments is, on average > 50 pieces per day. Meanwhile, new respondents are only able to complete an average of 20-35 pieces per day. The shortfall is overcome through the collective collection of other craftsmen's products. Respondents realized that keeping the order time according to the agreement was an obligation. However, sacrifices product quality because sales take place without being selectively sorted. A respondent with the initials An, aged 42 years, explained this as follows:

> *"Fulfilling promises with merchants and customers to deliver orders. In a timely manner, it is very mandatory, and we need to keep their trust. Of course, good social relations are important, so that product orders continue.*

Another contributing factor is the technique of selling *cococraft* products, which is done wholesale. That is, it does not differentiate the condition and quality of cocoa in terms of production status, organ parts, surface, color, and benefits. Respondents sell all products of the same type and raw materials of the same size to collectors and consumers. Sales take place at the same price level. The condition of the semi-finished *cococraft* is mixed with the full finishing one. Products that do not have complete organ parts are also equated with complete ones. Defective products come together with good ones. Although the number of semi-finished, incomplete, and slightly damaged *cococraft* (< 15 percent) has made buyers push prices to a low level. The price increase for *cococraft* has been slow due to wholesale sales.

Several factors contributed to the respondents did not fully implement the sorting technique. The results of identifying other causal factors are minimal knowledge about the important functions of sorting, low ability to apply complete sorting techniques, inappropriate sorting places, limited time, and limited skilled manpower. Phase 1 respondents are, on average able to overcome the problems caused by all the causal factors. The applied data on sorting techniques with their complete standard criteria are good and smooth. The condition of the respondents who are in Phase 2 shows a moderate ability to resolve various causal factors. Time limitation is the most difficult factor to overcome by respondents from phases 2 and 3. This factor is the strongest, which causes the respondent's slowness in completing sorting. Nevertheless, there is already awareness and interest in being skilled and capable of sorting *cococraft*. The diversity of values of intensity of ability to solve causal factors in respondents from Phases 1, 2, and 3 are listed in Figure 1.

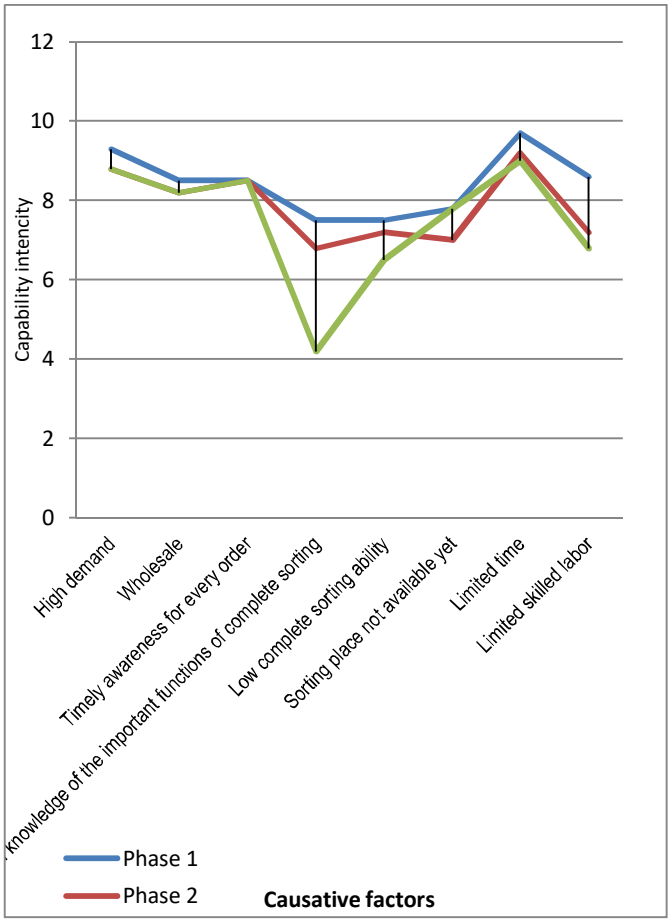

Fig. 1 The Intensity of Respondents' Ability in Solving Causative Factors

On average, Respondents in phases 1, 2, and 3 were aware of and knew the important functions of a complete sorting technique for improving the quality of *cococraft,* increasing prices, market security, and income. Some respondents already know about the sorting function to strengthen their bargaining position. Several respondents dare to explain that sorting can strengthen product competitiveness. The provision of satisfactory service can also be fulfilled if the sale of *cococraft* is carried out after sorting. The respondent with the initials S, aged 49 years, stated:

> *"Sort process is necessary for us in marketing our products to the market and consumers who are customers. Goods that have been sorted are more uniform in quality, and prices will vary according to quality. Good cococraft goods please customers, and they are satisfied, of course, they are loyal to order directly from us."*

The sorting process carried out by respondents is minimal because it has not been equipped with criteria as complete standards. The complete *cococraft* sorting process is based on

the fulfillment of a minimum of eight criteria that differentiate between a decent product with decent quality but a low-quality product and an unworthy and not good quality product. The product group that is not feasible and not of good quality does not deserve to be sold because it includes rejected *cococraft*. The product group is rejected because of severe damage or disability, such as incomplete, cracked, broken, broken, and lost organ parts. The rejected product reduces the value of the respondent's acceptance because it is counted as unsold goods. Of course, this has an impact on reducing the income and profits of respondents.

There are also groups of *cococraft* that are not feasible and of good quality, which are returned by traders to respondents to be repaired so that they are included in the category of decent and quality products. A few respondents still carry out the complete sorting stage with eight criteria. The complete application stages of the sorting technique follow the process flow as detailed in Figure 2.

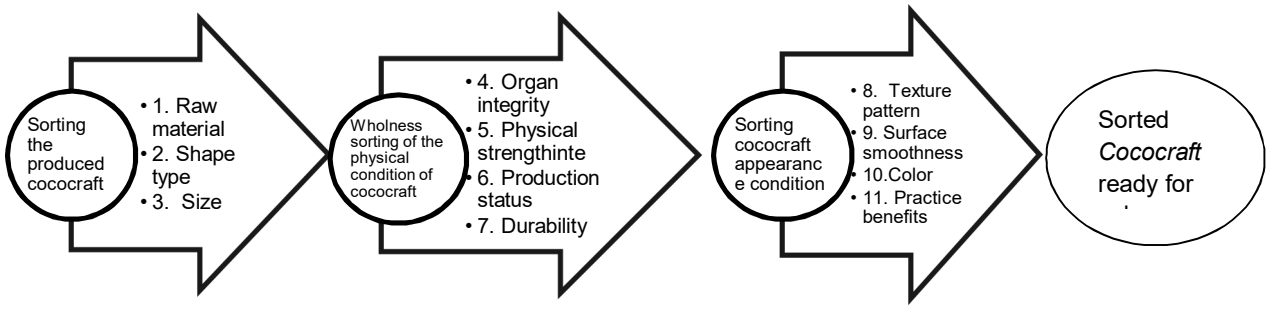

Fig. 2 Complete Sorting Process for Quality *Cococraft*

Fig. 2 above shows the raw materials, shape, size, organ integrity, physical strength, color, texture pattern, surface smoothness, production status, durability, and practical benefits. The economic benefits of sorting vary for all respondents. Variations in value exist in each type of benefit between after and after sorting. Each type of economic benefit experienced a strengthening in all respondents after sorting the *cococraft* completely. The lowest strengthening occurred in price increases. Strengthening in the medium category is the ability to estimate prices quickly and appropriately. After sorting, it appears that respondents are quick to estimate prices. However, the estimated price level is not feasible. A reasonable price is characterized by an increase at a certain level agreed upon by the collectors and consumers. Meanwhile, other types of benefits show high reinforcement.

The social benefits of sorting have increased for each respondent. After sorting, social benefits related to strengthening social relations, business cooperation, and increasing mutual trust showed a high value. All respondents feel that sorting is economically and socially beneficial for developing the *cococraft* business. Respondents recognize sorting as an inseparable part of the post-production handling stage. Sorting activities make a valuable contribution to respondents' economic and social empowerment. The variation in the benefits of *cococraft* sorting for the empowerment of respondents can be seen in Figure 3.

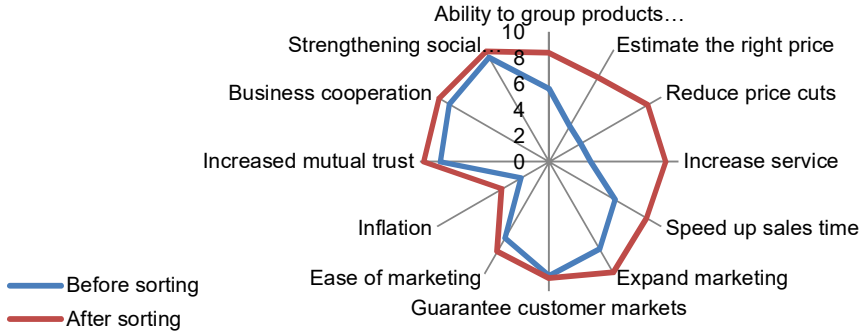

Fig. 3 Variation in Value of Complete Sorting Benefits for Empowering Respondents

Sorting is an activity that makes it easier for producers to produce quality products [22], [32], [29]. Sorted products are more suitable for commercial promotion [21], [33]. *Cococraft* products produced by respondents who have done a complete sorting are easier to get promotion opportunities at exhibitions and other events—broader market reach. Respondents began to set price increases, although they were limited to traders and consumers who had just become customers of quality *cococraft* with more varied design styles.

The willingness and ability of respondents to apply sorting techniques is a valuable asset for empowerment. Behavior that is sensitive to product sorting is the key to entrepreneurial success [34] [35], [36], [37]. Respondents need to strengthen their beliefs about the usefulness of a complete sorting technique, and the respondent requires the diffusion of the

complete sorting technique. It is important to carry out a continuous diffusion process through sharing experiences between advanced and novice respondents [38] [37]. Critical assistance is also urgent and crucial to continue in order to provide space for respondents to strengthen complete sorting motivation [26], [16], [39]. Proficient behavior in complete sorting helps producers to increase competitiveness. Another benefit is that in order to survive, develop productive business diversification in agricultural activities, especially off-farm based on local resources and environmentally friendly [9], [40], [41], [42].

IV. Conclusion

The reluctance of most respondents to apply the complete sorting technique is because of several reasons, such as time constraints during high demand, tending to sell in bulk, awareness pressure to fulfill orders on time, weak ability to apply complete sorting technique, unavailable sorting places, and limited skilled workforce. Respondents have tried to reduce the intensity of these causal factors. The number of respondents skilled in applying the complete sorting technique is still small. The benefits of complete sorting strongly support the empowerment of respondents. Product prices are higher due to the quality selection results in raw materials, shape, size, organ integrity, physical strength, color, texture, surface smoothness, production status, durability, and practical benefits. The price of quality *cococraft* from a complete sort is undoubtedly higher than the superficial. The diffusion process and consultative advocacy are needed to continuously improve the behavior of craftsmen in applying complete sorting techniques for quality *cococraft* with contemporary designs.

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References

[1] D. Badaruddin, K. Kariono, D. Ermansyah, and L. Sudarwati, "Community empowerment based social capital and village business company (BUMDes)," in *Advances in Social Science, Education and Humanities Research*, 2018, vol. 136, no. 6, pp. 181–187. doi: 10.2991/icosop-17.2018.27.

[2] N. N. Mudege, T. Nyekanyeka, E. Kapalasa, T. Chevo, and P. Demo, "Understanding collective action and women's empowerment in potato farmer groups in Ntcheu and Dedza in Malawi," *J. Rural Stud.*, vol. 42, pp. 91–101, 2015, doi: 10.1016/j.jrurstud.2015.09.002.

[3] A. Chaudhuri, "Understanding 'empowerment,'" *J. Dev. Policy Pract.*, vol. I, no. 2, pp. 121–141, 2016, doi: 10.1177/2455133315612298.

[4] A. Mubita, M. Libati, and M. Mulonda, "The Importance and Limitations of Participation in Development Projects and Programmes," *Eur. J. Sci. Res.*, vol. 13, no. 5, pp. 238–250, 2017, doi: 10.19044/esj.2017.v13n5p238.

[5] R. Suntrayuth, "Collaborations and design development of local craft products: Service design for creative craft community," *Int. J. Creat. Arts Stud.*, vol. 3, no. 2, pp. 1–12, 2016, doi: 10.24821/ijcas.v3i2.1840.

[6] W. Wright and A. Annes, "Farm women and the empowerment potential in value-added agriculture," *Rural Sociol.*, vol. 81, no. 4, pp. 545–571, 2016, doi: 10.1111/ruso.12105.

[7] H. Y. Ju Fengfan, "Traditional tie-dye handicraft and modern design concept combined," *J. Arts Humanit.*, vol. 06, no. 08, pp. 12–15, 2017.

[8] D. Dumasari; Darmawan, W; Iqbal, A; Dharmawan, B; Santosa, I. "Development of production creativity among craftsmen by identifying techniques for characterizing coconut waste," *Int. J. Adv. Sci. Eng. Inf. Technol.*, vol. 9, no. 2, pp. 717–723, 2019, doi: 10.18517/ijaseit.9.2.5871.

[9] D. Dumasari; Darmawan, Wayan; Iqbal, Achmad; Dharmawan, Budi; Santosa, I. "A pro-conservation adaptation power model for cococraft craftsmen using coconut waste in Purbalingga, Central Java, Indonesia," *Int. J. Conserv. Sci.*, vol. 11, no. 1, pp. 87–96, 2020.

[10] O. A. Oyekunle and M. Sirayi, "The role of design in sustainable development of handicraft industries," *African J. Sci. Technol. Innov. Dev.*, vol. 10, no. 4, pp. 381–388, 2018, doi: 10.1080/20421338.2018.1461968.

[11] R. Y. Khan, J. Huang, K. Ren, Z. U. Wahab, and S. Meer, "Creativity and richness craft: Admirable traditional carve wooden art as recognition of Pakistani heritage," *J. Arts Humanit.*, vol. 7, no. 9, pp. 53–69, 2018, doi: 10.18533/journal.v7i9.1480.

[12] D. Dumasari; W. Darmawan; I. Santosa, and S. Budiningsih, "Modification of Print Techniques Based on Creative Imagination to Improve the Skills," *Acad. Strateg. Manag. J.*, vol. 20, no. 4, pp. 1–11, 2021.

[13] K. M. Makhitha, "' Do small craft businesses need strategic marketing to survive ?' Do small craft businesses need strategic marketing to survive ?," *Invest. Manag. Financ. Innov.*, vol. 13, pp. 399–404, 2016, doi: 10.21511/imfi.13(2-2).2016.15.

[14] S. B. Dibyendu Bikash Datta, "Analysis on problems and prospects of Indian handicraft sector," *Asian J. Manag.*, vol. 7, no. 1, pp. 5–16, 2016, doi: 10.5958/2321-5763.2016.00002.0.

[15] T. M. Sari and Solfema, "Description of craftsmen's creativities in developing sulaman bayangan crafts in Nagari Barung-Barung Balantai," *Indones. J. Contemp. Educ.*, vol. 1, no. February, pp. 55–58, 2019.

[16] M. Yasuoka, "Designing knowledge management system for supporting craftsmen's collaboration beyond temporal boundaries," in *Proceedings of the 53rd Hawaii International Conference on System Sciences*, 2020, vol. 3, pp. 4880–4889. doi: 10.24251/hicss.2020.599.

[17] J. Hidayat and F. Fatmahwaty, "The art and sustainable aspects of natural dyeing in kanawida hand drawn batik (green batik)," *IPTEK J. Proc. Ser.*, vol. 0, no. 1, pp. 136–143, 2014, doi: 10.12962/j23546026.y2014i1.207.

[18] Y. Shimoda, "Unpacking the Influence of Business Approaches to Develo pment on the Expansion of Women ' s Choices and Empowerment : A Case Study of a Handicraft Business in the Kyrgyz Republic," 2022.

[19] P. Taylor, S. Cai, and Y. C. Xu, "Designing Product Lists for E-commerce : The Effects of Sorting on Consumer Decision Making Designing Product Lists for E-commerce :," *Int. J. Hum.*, no. October 2014, pp. 37–41, 2008, doi: 10.1080/10447310802335730.

[20] N. Nørup, K. Pihl, A. Damgaard, and C. Scheutz, "Development and testing of a sorting and quality assessment method for textile waste," *Waste Manag.*, vol. 79, pp. 8–21, 2018, doi: 10.1016/j.wasman.2018.07.008.

[21] T. Tavor and L. D. Gonen, "The Sorting Process as a Tool for Promoting the Demand of Heterogeneous Customers," *Mathematics*, vol. 9, no. 2, pp. 1–18, 2021, doi: 10.3390/math9020152.

[22] S. Jerome, "A study on agricultural marketing strategies and challenges faced by the ponmalai santhai (local market) farmers in Tiruchirappalli," *Int. J. Econ. Manag. Stud.*, vol. 4, no. 9, pp. 15–20, 2017.

[23] J. Eeckhout and P. Kircher, "Sorting and Decentralized Price Competition ∗," *Econometrica,* vol. 78, no. 2 May, pp. 539–574, 2010, doi: 10.3982/ECTA7953.

[24] Creswell, *Research Design Qualitative and Quantitative Approaches*. 1994.

[25] M. B. Miles, A. M. Huberman, and J. Saldana, *Qualitative Data Analysis*. SAGE, 2014.

[26] I. D. Nugraha and M. Giatman, "Obstacling Factors in Entrepreneurship in Songket Craftmen," *Enrich. J. Manag.*, vol. 12, no. 2, pp. 2139–2145, 2022.

[27] E. Fontainha and E. Lazzaro, "Cultural and creative entrepreneurs in financial crises: Sailing against the tide ?," *Sci. Ann. Econ. Bus.*, vol. 66, no. SI1, pp. 73–89, 2019, doi: 10.2478/saeb-2019-0022.

[28] E. Hudcová, T. Chovanec, and J. Moudrý, “Social entrepreneurship in agriculture, a sustainable practice for social and economic cohesion in rural areas: The case of the Czech Republic,” *Eur. Countrys.*, vol. 10, no. 3, pp. 377–397, 2018, doi: 10.2478/euco-2018-0022.

[29] G. Li, H. Liu, Y. Li, H. Jie, and Q. Lv, “A Study on the Training Path of Craftsman Talents in Higher Vocational Colleges Against the Background of the Transformation of Old and New Kinetic Energy,” in *Advances in Social Science, Education and Humanities Research*, 2021, vol. 616, no. Proceedings of the 2nd International Conference on Education Studies: Experience and Innovation (ICESEI), pp. 84–88.

[30] N. Wayan, N. Budiasni, N. Made, S. Ayuni, N. Kadek, and A. Trisnadewi, “The Implementation Of Spiritual Capital Saab Mote Craftsmen : Study Of The Hindu Teachings (Study Of Saab Mote Craftsman In Nagasepaha Village , Buleleng),” *Int. J. Soc. Sci. Bus.*, vol. 3, no. 3, pp. 336–340, 2019.

[31] G. Cofré-bravo, L. Klerkx, and A. Engler, “Combinations of bonding , bridging , and linking social capital for farm innovation : How farmers con fi gure di ff erent support networks,” *Rural Stud.*, vol. 69, no. April, pp. 53–64, 2019, doi: 10.1016/j.jrurstud.2019.04.004.

[32] D. Dumasari, B. Dharmawan, and S. Budiningsih, “Empowering Quality Cococraft Craftsmen Through Strengthening Partnerships Network,” in *International Conference on Sustainable Agricultural Socio-economics, Agribusiness, and Rural Development (ICSASARD 2021)*, 2021, pp. 264–271.

[33] R. N. Opata, Patience Ifeyinwa; Ezeibe, Adaku Bridget; Arua, “Drivers of farmers market participation in southeast Nigeria,” *J. Agric. Rural Dev. Trop. Subtrop.*, vol. 121, no. 2, pp. 207–217, 2020, doi: https://doi.org/10.17170/kobra-202010191969.

[34] Dumasari; Wayan Darmawan; - Ismangil; Budi Dharmawan and Imam Santosa, “Empowerment of subsistence craftsmen through the adoption of environmentally friendly cocodust production technology,” *Int. J. Adv. Sci. Eng. Inf. Technol.*, vol. 10, no. 2, pp. 691–702, 2020, doi: 10.18517/ijaseit.10.2.8522.

[35] S. A. A. C. Falola, Abraham; Mukaila, Ridwan; Akanbi, Sheu-Usman Oladipo;Olohungbebe, Oluwatobiloba, “Agripreneurial drive among women shea butter processors in Kwara State, Nigeria: motivating factors and efficiency,” *J. Agric. Rural Dev. Trop. Subtrop.*, vol. 123, no. 2, pp. 175–187, 2022, doi: https://doi.org/10.17170/kobra-202210116962.

[36] B. Dharmawan, A. Rosyad, A. N. Mandamdari, L. Zulkifli, Sunendar, and L. M. Silitonga, “Assessing the emerging agribusiness entrepreneurs by using brainwave technology,” *IOP Conf. Ser. Earth Environ. Sci.*, vol. 653, no. 1, 2021, doi: 10.1088/1755-1315/653/1/012144.

[37] A. I. L. Smagina, “Craft Entrepreneurship and Created Value,” in *Rural Environment, Education, Personality*, 2020, pp. 366–376.

[38] Gandasari, Dyah,et.al., “Analysis of Innovation Attributes in The Innovation Adoption of Agricultural Mechanization Technology in Farmers,” *J. Komun. Pembang.*, vol. 19, no. 01, pp. 38–51, 2021, doi: 10.46937/19202132705.

[39] R. Romeo, Marina; Yepes-Baldó, Montserrat ; Nordin, Maria; Westerberg, Kristina; Lundmark and P. Morales, “The influence of job crafting on the quality of care provided by nursing home employees: The moderating effect of organizational identification,” *Curr. Psychol.*, vol. 03, p. October, 2021, doi: https://doi.org/10.1007/s12144-021-02317-y.

[40] S. Gansonré, “Analysis of off-farm work decisions among smallholder farm households in Burkina Faso,” *Dev. Pract.*, vol. 29, no. 3, pp. 326–335, 2019, doi: 10.1080/09614524.2018.1541965.

[41] M. Chang, J. Liu, H. Shi, and T. Guo, “The Effect of Off-Farm Employment on Agricultural Production Efficiency: Micro Evidence in China,” *Sustainability*, no. 3385, pp. 1–12, 2022, doi: https://doi.org/10.3390/su14063385.

[42] A. Endiris, Z. B. Ayalew, and Zemen, “he impact of off-farm activities on rural households’ food security status in Western Ethiopia.pdf,” *Cogent Food Agric*, vol. 7, no. 1879425, pp. 1–19, 2021, doi: https://doi.org/10.1080/23311932.2021.1879425.