A Study on Revitalizing the Traditional Craft Industry
- Proposal for ‘Odate Magewappa’ Products Considering the Modern Lifestyle

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Abstract: The aim of this study is to support the revitalization of ‘Odate Magewappa’ as one of Akita Prefecture's traditional craft Industries through the development of its products. There is little to counteract the decreasing demand for Magewappa products given today's changing lifestyles and the prevalence of plastic products. We also have to consider that the availability of natural Akita cedar, the raw material used to make ‘Odate Magewappa’, is declining. We are exploring ways of alleviating this situation. Our daily lives can be divided into clothing, food, living space and amusement when classified according to relation to products. This study focuses on developing products that direct us away from the traditional food category into clothing, living space and amusement categories to match the modern lifestyle. As part of this study, we created 25 prototypes in the 4 categories that were then exhibited and evaluated. The evaluation results revealed that we should establish Magewappa with a sweeping, light and elegant form as well as the Magewappa identity necessary for our lives, based on the rarity value that only Akita Cedar materials afford, without losing the traditional ‘Magewappa’ look. Through the development of prototypes, two solutions were found to use limited materials efficiently such as the use of plywood with thin panels and the use of ultra-thin single panel when producing them. Thus, we could confirm that the flexibility in shaping them was enhanced as it was applied to some prototypes effectively.

Key words: Odate Magewappa, Traditional Craft Industry, Revitalization, Akita Cedar

1. Introduction

With changes in Japan's industry structure, the hollowing out of the industry is continuing centering on the manufacturing industry. Therefore, revitalization of local industries is important, and Akita Prefecture is no exception. Solutions are required to halt the decline of the prefecture's local industries.

Carpentry and traditional crafts are the major regional industries unique to Akita. Several collaborative efforts by industry, academia, and local government have focused on revitalizing local industries [1]. Since ‘Odate Magewappa’ was designated a traditional craft work of Japan in October 1970, and subsequently supported by the national government and Akita Prefecture through the Odate Magewappa Association, several projects have been made to plan and act to promote production and to bring up apprentices. This paper summarizes a study on the product development through ‘Odate Magewappa Design Development 2000’ and ‘Demand Development Project 2001’ [2].

The aim of this study is to support the revitalization of ‘Odate Magewappa’ as one of Akita Prefecture's traditional craft Industries through the development of its products.
2. Circumstances surrounding ‘Odate Magewappa’

Akita Cedar is famous for its lightness and flexibility, with its elegant straight grain, its bright, scarlet color, and its fine, uniform growth rings. ‘Odate Magewappa’ products utilize these special features.

The Odate Magewappa Association, which consists of those in the Magewappa business, is formed through the union of 10 companies [3]. However, all but one of these companies is family run, and they are home-craft industries. Each of these companies offers a different quality, and they continue to make distinctive products. However, there are severe circumstances surrounding the traditional craft industry, as shown in the following.

First, there is little to counteract the decreasing demand for Magewappa products given today's changing lifestyles and the prevalence of plastic products. We are exploring ways of alleviating this situation. In short, we must reconsider product ‘Uses’ up to now to come up with products that match our current lifestyle. For example, we have seen traditional craft work that incorporates universal design concepts, which are easy to use even for elderly or physically-challenged people, such as earthenware cups in which 4 fingers can be inserted, which make it easy to hold, as well as iron kettles that allow water to be added without removing a heavy lid. Lacquerware in certain production areas are used for school lunches in local elementary and junior high schools, which acquaint children with traditional craft work from a very young age to create an environment in which they can relate to this lacquerware as functional, daily items.

The second problem is that there are limited materials for the production of Magewappa products. While natural cedar between 200 and 300 years’ old is currently used as the main material in the production of Magewappa, trees of this age will no longer be felled for these purposes within the next few years [4].

Acquiring substitute materials from forested cedar in the 150 to 160 year range [5] makes the continuing production of Magewappa possible without sacrificing much in terms of width & size, the detailed texture and flexural strength. However, The use of these materials may lead to the use of inferior ones from forested cedar trees that are only 100 to 120 year range. Thus, we must take special note of these limitations in the production of Magewappa.

‘Odate Magewappa’ concentrates on problems from both the demand and material aspects described above, and we have to find some solutions based on these conditions. That is to say, design plans on the form and manufacturing are important to respond to our modern lifestyle and to maximize the use of available materials including forested cedar.

3. Concept of the prototypes

‘Odate Magewappa’, with its over 400-year history, has contributed to our lives, and has been centered on tableware. Yet changes over time in our eating habits may lead to a further fall in the demand for our products despite the fact that we make wonderful products if we continue to focus only on traditional types of tableware. This is because plastic products have taken over the role that Magewappa once held.

While creating high-quality Magewappa products is naturally a labor-intensive enterprise, it is extremely difficult to simplify the production process and reduce the labor costs without sacrificing quality. We believe that it is better to adopt a two-pronged approach, in which we develop high-quality products that will convince people of their value, and perhaps develop products in areas where there is no price competition. As a result, we have selected one of our Magewappa product options within an inexpensive price range to create a new market.

Our daily lives can be divided into clothing, food, living space and amusement when classified according to
the relation between our lives and products. This study focuses on developing a concept that directs us away from the traditional food category into clothing, living space and amusement categories, as well as wider product development areas. We also propose to continue focusing on incorporating Magewappa into our modern dietary lifestyles.

4. The first prototypes

While we produced prototypes based on the above concepts, we had the opportunity to visit each of our members’ workshops to understand the actual situation at their production sites and check their material handling as well as their skills and technologies.

The width of the boards are limited depending on the thickness of the tree trunk at material processing. This is because straight-grain Akita cedar heartwood is used to produce Magewappa. It is currently difficult to obtain materials exceeding 150 mm. Magewappa can be produced up to around 5 mm in thickness. This means that, while thickness adds to its strength, the small diameter (ex. 40 mm or 50 mm) makes it challenging for Magewappa production.

A total of 25 prototypes in the 4 categories have been manufactured based on the production material conditions above, as shown in the following (Fig. 1).

1) Clothing Category:  (1) Clothing hangers, (1) Towel hangers, (1) Slipper stands
2) Food Category:  (2) Wine racks, (2) Sake bottles and sake cups
3) Living Space Category: (2) Wall lights, (1) Lampshades, (2) Floor stands, (1) Partitions, (1) Wall decorations
4) Amusement Category: (3) CD stands, (1) Photo stands, (1) Attaché cases, (1) Magazine racks,
   (4) Wall clocks, (1) Standing clocks

Note: The numbers in parenthesis are variations.

![Fig. 1 Magewappa prototypes manufactured in the 4 categories](image)

5. Evaluation of prototypes and discussion

These prototypes were exhibited at the Japan Traditional Craft Center in fall 2001 (Fig. 2) where we conducted an evaluation according to the details shown in the following.

A Results Review Committee, composed of area specialists from craftspeople, design, publishing, distribution, government as well as other industries and businesses, was organized to discuss the prototypes and further
developments of Magewappa. The following is a summary of these prototypes from the evaluation by those who participated in the discussions.
1) Feel: Magewappa has a warmth that can be felt that is not felt in other traditional craft products. It must therefore maintain its traditions much like lunch boxes and boiled-rice containers while pursuing a ‘usable’ form that people can handle.
2) Form: Overly abstract shapes such as magazine racks, or products that seem to be too dense due to the use of thick plywood, such as wine racks, give a negative impression.
3) Thinness: Special qualities are effectively created by soft, atmospheric light that passes through the grain of the thin cedar boards. This is especially evident when the cedar is used to create a wall light. When a vendor acts as a go-between in installing wall lights, this makes it difficult for unit sales. For this reason, it is easier for the Magewappa craftspeople if products are developed that are created to act as stand-alone items.
4) Variations: High-end products must clearly differ from everyday products such as lampshades, in contrast to towel hangers, while maximizing the use of limited raw materials.
5) Cost balance: Materials, form, function and price should be blended together. The cost is comparatively high compared to the functions. This is because 3 types of molds must be prepared for slipper stands, for example. While we originally created a prototype to display a single CD keepsake, it is also necessary to create CD stands for storing a number of CDs, considering both cost and functionality.
6) Identity: We must enhance the Magewappa identity and verify its position in the global market.

Thus, we can determine, according to evaluations by the area specialists mentioned above, that we should establish Magewappa with a sweeping, light and elegant form as well as the Magewappa identity necessary for our lives, based on the rarity value that only Akita Cedar materials afford, without losing the traditional ‘Magewappa’ look.

We have also learned the following through production, by examining the material process in molding. We first learned that it is possible to overcome limitations through skill in utilizing the Magewappa process by the use of plywood with thin single panels, not using one single thick panel. We also discovered that it is possible to use a slicer process and crack-proof film coating treatment on ultra-thin single panels (ex. 0.1 mm or 0.2 mm), which is not often used in conventional Magewappa production.

6. Improved prototypes

Based on the above first prototype evaluations, we have improved some of these and created second prototypes. We selected the CD rack from the Amusement Category and the stand-type lampshade from the Living Space Category and proceeded to remanufacture prototypes (Fig. 3). Features of the CD rack are its spiral form, obtained by using materials with as narrow a width as possible (width:18 mm), and in which 4 CDs can be held in the spaces between the spirals. The use of thin plywood was used to achieve a diameter of around 100 mm and to
maintain the shape. A stand-type lampshade was made in line with the Results Review Committee recommendations, which applied a covering of 0.2 mm thickness used for wall lights that are highly regarded for their soft lighting effect. This kind of ultra-thin single panels will be used in multiple applications in the future and in the effective use of these materials, as we were able to extract efficient materials by using a slicer.

7. Conclusion

This paper summarizes proposals for Magewappa products, considering compatibility with our modern lifestyle, discusses deploying these products in clothing, food, living space and amusement, and provides a background to each of the prototypes manufactured.

We also found two solutions to use limited materials efficiently such as the use of plywood and the use of ultra-thin single panel in producing them. For example, while the intended shape such as conventional vessels is maintained by using a base panel, the shape without a base panel is also maintained with a side panel that uses plywood instead. We could confirm that the flexibility in shaping them was enhanced as it was applied to some prototypes effectively. While problems found in the evaluation were improved, we must apply a stricter evaluation of cost versus added value to produce products on a commercial basis. This goal is applied to some of these products to be marketed next year. Finally, ‘Odate Magewappa’ is not a high-growth industry, however, we would like it to be a vital force and have a favorable impact on surrounding industries by establishing its firm identity in our daily lives.

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Notes
1. One example is the utilization of bent wood technology with beech material from Akita Prefecture to develop a bent wood wheelchair using a ‘mobile furniture’ concept manufactured by Akita Mokko Co., Ltd. Another example is the development of lacquerware by the Akita Lacquerware Industry Association, which uses a higher elevation that makes its easier to carry with one hand, based on a universal design concept.
2. These projects were supported by the Ministry of Economy, Trade and Industry as well as Akita Prefecture.
3. A total of 14 companies, including 4 that are not part of the Association, are part of the production center.
engaged in the Magewappa industry.

4. A resource survey conducted from 2002 estimated that there is enough yield until 2012, as calculated for the potential yield of natural cedar. Yet substitute materials that can be used must be obtained.

5. Three-hundred-year-old trees, which are called natural cedar, have very small grain and sufficient material strength when compared to the straight grain of Akita cedar of other ages. Forested cedar between the ages of 80 and 100 years, in contrast, still show a coarseness in their grain and have comparatively weaker flexural strength than natural cedar, thus severely hampering efforts to mold them. Cedar raised for about 150 to 160 years are called ripe Akita Cedar and are almost equivalent to natural cedar quality. As a result, relevant departments (Tohoku Bureau of Forestry and the Council for Magewappa Forest Cultivation) concluded the ‘Magewappa Forest’ agreement for a forest of roughly 8,400 cedars planted since 1908, and are engaged in acquiring materials through such efforts as planning to grow cedar trees until they are about 150 years old.

References