



Analysis of the Differences in OCOP Products between Thanh Hoa Province and Nghe an Province

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Abstract

This research analyzes the differences in OCOP products between Thanh Hoa province and Nghe An province, Vietnam. OCOP products are analyzed based on three aspects: Product mean score (Product level), Structure of product type, and Structure of product region. The analysis sample includes 115 OCOP products from 3 to 5 stars in each province (230 products in total). Research results are confirmed that there are some differences in OCOP Products between Thanh Hoa province and Nghe An Province. Whereby, there is the difference in the mean score, the difference in the structure of product type, and the difference in the structure of product region. These results help the authorities in both provinces to have appropriate policies and support tools to develop local OCOP products by the goals and orientations of each locality to commercialize strongly rural products that have their comparative advantage.

Introduction

The One Village One Product (OVOP) program was started from Oita Prefecture in Japan in 1979 to help to increase the value of local products, tourism, and cultural products (Kanako Mukai & Fujikura, 2015). By 2020, this program has grown widely and is present in 143 countries around the world (Vietnam Ministry of Agriculture and Rural Development, 2020).

In Vietnam, on March 2nd, 2017, the OCOP program was first implemented in Quang Ninh province with the name One Commune One Product (OCOP). Throughout the period from 2018 to 2020, there are 2,961 subjects registered to participate in OCOP with 6,210 registered products and 4,759 products rated from 3 stars to 5 stars (Ministry of Agriculture and Rural Development of Vietnam, 2021). Until 2021, the OCOP program has been replicated to 63/63 provinces and cities nationwide.

The focus of the OCOP program is to develop comparative advantageous products, typical products, and specialties of each locality in the fields of agriculture, non-agriculture, and services. The subjects participating in the OCOP program are private economic sectors such as private enterprises, private production households, and the collective economy.

Thanh Hoa province is adjacent to Nghe An province. Both provinces belong to the North Central region of Vietnam. Apart from some similarities, there are some differences in the two provinces such as nature, socio-economic. In addition, the OCOP program is implemented at the same time in both provinces. On December 28, 2018, the People's Committee of Thanh Hoa province issued Decision No. 5363/QĐ-UBND approving the Scheme of the One Commune One Product Program. On March 12, 2019, the People's Committee of Nghe An province issued a Decision approving the Scheme of One Commune One Product of Nghe An Province from 2019 to 2020, with a vision to 2030 (People's Committee of Nghe An Province,

2019). For the OCOP program, Thanh Hoa province divides it into several evaluations during the year, but in Nghe An province, it only evaluates once a year at the end of the year.

Similar to many countries in the world, the goal of the OCOP program in Vietnam in general and in Thanh Hoa and Nghe An, in particular, is to develop the rural economy in the direction of developing internal resources and adding value; promoting circular economy and sustainable development; raising people's income, preserving cultural values, managing natural resources and conserving biodiversity, landscape, and rural environment, contributing to building sustainable "New countryside" in rural regions (People's Committee of Thanh Hoa province, 2019a). However, there are also certain differences in models between countries due to differences in political, economic, and social factors (Anh, 2013). Each locality in a country, due to its different advantages, also has certain differences in the products participating in OCOP.

From the objective of the OCOP program, based on the natural, socio-economic conditions, the author analyzes the difference of OCOP products between the two localities, including the difference in the mean scores, the difference in product sub-sectors (06 sectors according to the regulations of the Ministry of Agriculture and Rural Development); territorial differences (divided into 3 Regions including midland and mountainous, plains and coastal)

Methods

Data Collection Methods

Data are collected from documents related to the OCOP program in Vietnam, in Thanh Hoa and Nghe An provinces; Annual Reports of the New Rural Coordination Office of Thanh Hoa Province, the New Rural Coordination Office of Nghe An Province; Decisions approving, announcing the results of evaluation and ranking of OCOP products in Thanh Hoa and Nghe An provinces from 2019 to the end of October 2021. In addition, data is also collected through expert interviews in October 2021 (Bui Cong Anh - Deputy Chief of Office of the New Rural Coordination Office in Thanh Hoa province) to have more basis for analyzing and evaluating research issues.

Data Processing Method

About sample size: By the end of 2020, Nghe An province has 115 OCOP-recognized products with 3 stars or more. By the end of 2020, Thanh Hoa province has 69 products recognized from 3 stars to 4 stars. To have a scientific basis for research and comparison, the author adds 46 OCOP products of Thanh Hoa recognized in 2021 (46 products selected by random method out of 53 recognized products in 2021).

Besides, according to geographical division, Nghe An province is divided into 3 territories: Midlands, mountainous regions, plains, and coastal regions. However, for compatibility in comparison, the author divides the territories for products participating in OCOP of Nghe An province into 3 regions equivalent to 3 regions of Thanh Hoa province, including Midlands and mountainous regions; Plains and Coastal Regions.

Methods of Data Analysis

By the method of synthesis, descriptive statistics, analysis, comparison (including absolute and relative numbers) on the number of products, the ratio of products based on classification into the criteria (1) Product Class, (2) Product Subsector, and (3) Territory.

After coding, data was entered and analyzed using Excel, SPSS 20.0 software. The author analyzes the difference in OCOP products between Thanh Hoa province and Nghe An province

by Independent Samples T-test (test of mean difference), Chi-Square test, and Fisher's test. Exact Test (tests the difference in proportions).

Research hypothesis

Hypothesis H01: There is no difference in the mean scores of OCOP products between Nghe An and Thanh Hoa provinces.

Hypothesis H02: There is no difference in the structure of OCOP product sub-sectors between Nghe An and Thanh Hoa provinces.

Hypothesis H03: There is no difference in the territorial structure of OCOP products between Nghe An and Thanh Hoa provinces.

Results and Discussion

Descriptive Statistics Results

Products participating in OCOP are scored to rank products. Products with a total score of From 50 to 69 are rated 3 stars; From 70 to 89 has a 4-star rating and From 90 to 100 has a 5-star rating. In addition, products participating in OCOP also have regional characteristics and are divided into 6 industries including Food, Drinks, Herbal, Fabrics and apparel, Souvenirs – Furniture – Decoration, and Rural tourism services, sales (Vietnam Ministry of Agriculture and Rural Affairs, 2020).

Product Level

Products rated at 3 stars accounted for the majority of the total number of products. In Thanh Hoa province, there are 85 three-star products, equivalent to 73.9%. In Nghe An province, there are 89 three-star products, equivalent to 77.4%. Products with four stars in Thanh Hoa province and Nghe An province are 29 products, equivalent to 25.2%, and 26 products, equivalent to 22.6%. there is one five-star product in Thanh Hoa province, equivalent to 0.99%, but in Nghe An province, there is no five-star product (Table 1).

Table 1. OCOP products recognized in Thanh Hoa and Nghe An provinces

| | | Thanh Hoa Province | | Nghe An Province | |
|----------------|-----------------------------------|--------------------|--------------|------------------|--------------|
| | | Count | Ratio % | Count | Ratio % |
| Product level | 3 stars | 85 | 73.9 | 89 | 77.4 |
| | 4 stars | 29 | 25.2 | 26 | 22.6 |
| | 5 stars | 1 | 0.9 | 0 | 0.0 |
| Product type | Food | 78 | 67.8 | 86 | 74.8 |
| | Drinks | 8 | 7.0 | 7 | 6.1 |
| | Herbal | 14 | 12.2 | 15 | 13.0 |
| | Fabrics and garments | 0 | 0.0 | 1 | 0.9 |
| | Souvenirs– Furniture - Decoration | 15 | 13.0 | 3 | 2.6 |
| | Tourism – Rural services - Sales | 0 | 0.0 | 3 | 2.6 |
| Product region | Midland, Mountainous | 33 | 28.7 | 50 | 43.5 |
| | Plain | 35 | 30.4 | 39 | 33.9 |
| | Coastal | 47 | 40.9 | 26 | 22.6 |
| Total | | 115 | 100.0 | 115 | 100.0 |

[Source: Author compiled from Decision approving the evaluation and ranking results of OCOP products in Thanh Hoa province and Nghe An province in 2019, 2020, 2021]

Product Type

Table 1 showed that in Nghe An province, all six types of product are recognized for OCOP, of which the most is the "Food" with 86 products, accounted for 74.8%, 15 products of the "Herbal", accounted for 13%, 7 products of "drinks", accounted for 6.1%, 3 products of "Souvenir - Furniture - Decoration" accounted for 2.6%, 3 products of "Tourism, rural and sales services" takes 2.6% and 1 product of "Fabrics and apparel", takes 0.9%. In Thanh Hoa province, there are four types of products recognized OCOP standards, of which the most is "Food" with 78 products, accounting for 67.8%, 15 products of "Souvenir - Furniture - Decoration", accounted for 13%, 14 products of "Herbal", accounted for 12.2%, 8 products of "Drinks", accounted for 7%, there were no products in the "Fabric, garment" and products of "Tourism, rural and sales services".

Product Region

In Thanh Hoa province, products are distributed fairly evenly, 47 products from the coastal region, account for 40.9%, 35 products from the Plain region, account for 30.4%, and 33 products from the midland and mountainous region, accounting for 28.7%. In Nghe An province, 50 products from the midland and mountainous, accounted for 43.5%, 39 products from the plains, accounted for 33.9%, and 26 products from the coastal areas accounted for 22.6%.

Table 2. Comparison of OCOP products are between Nghe An province and Thanh Hoa province

| | | | Thanh Hoa province | Nghe An province | Total |
|----------------|------------------------------------|-------------------------|--------------------|------------------|--------|
| Product levels | 3 stars | Count | 85 | 89 | 174 |
| | | % within Product levels | 48.9% | 51.1% | 100.0% |
| | 4 stars | Count | 29 | 26 | 56 |
| | | % within Product levels | 53.6% | 46.4% | 100.0% |
| | 5 stars | Count | 1 | 0 | 1 |
| | | % within Product levels | 100 | 0 | 100 |
| Product Types | Food | Count | 78 | 86 | 164 |
| | | % within Product types | 47.6% | 52.4% | 100.0% |
| | Drinks | Count | 8 | 7 | 15 |
| | | % within Product types | 53.3% | 46.7% | 100.0% |
| | Herbal | Count | 14 | 15 | 29 |
| | | % within Product types | 48.3% | 51.7% | 100.0% |
| | Fabrics and garments | Count | 0 | 1 | 1 |
| | | % within Product types | 0.0% | 100.0% | 100.0% |
| | Souvenirs - Furniture - Decoration | Count | 15 | 3 | 18 |
| | | % within Product types | 83.3% | 16.7% | 100.0% |
| | | Count | 0 | 3 | 3 |

| | | | | | |
|-----------------|----------------------------------|--------------------------|-------|--------|--------|
| | Tourism – Rural services - Sales | % within Product types | 0.0% | 100.0% | 100.0% |
| Product Regions | Plain | Count | 33 | 50 | 83 |
| | | % within Product regions | 39.8% | 60.2% | 100.0% |
| | Midland, Mountainous | Count | 35 | 39 | 74 |
| | | % within Product regions | 47.3% | 52.7% | 100.0% |
| | Coastal | Count | 47 | 26 | 73 |
| | | % within Product regions | 64.4% | 35.6% | 100.0% |
| Total | Count | | 115 | 115 | 230 |
| | % within total | | 50.0% | 50.0% | 100.0% |

[Source: Author compiled from Decision approving the evaluation and ranking results of OCOP products in Thanh Hoa province and Nghe An province in 2019, 2020, 2021]

There are some elements with a large difference in the count and structure of products between Thanh Hoa province and Nghe An province. In Thanh Hoa province, there are 15 products in "Souvenirs – Furniture - Decoration", accounting for 83.3% of the total number of products in this industry, while the count of the same product in Nghe An province is three, accounting for 16.7%. The count of the "Cloth and garment" and "Tourism, rural and sales services" in Thanh Hoa province are absent while in Nghe An province, there are 3 community-based tourism products and one "Fabrics and garments" product. Products classified by region also have differences. In Thanh Hoa province, products are concentrated in the coastal region, but in Nghe An province, the products are concentrated in the Midlands and mountainous regions (Table 2).

Hypothesis testing

Hypothesis testing H_{01} : There is no difference in mean scores of OCOP products between Nghe An province and Thanh Hoa province.

For the conclusion to be proved, Independent Samples T-Test is used (Chu Nguyen Mong Ngoc, 2008).

Table 3. Independent Samples Test of Point

| | | Levene's Test for Equality of Variances | | T-test for Equality of Means | | | | |
|-------|-----------------------------|---|-------------|------------------------------|--------|-----------------|-----------------|-----------------------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
| Score | Equal variances assumed | .000 | .992 | 2.257 | 228 | .025 | 2.513 | 1.113 |
| | Equal variances not assumed | | | 2.257 | 227.87 | .025 | 2.513 | 1.113 |

Source: Analysis results by SPSS

Table 3 shows that Sig (Levene's Test) = 0.992 > 0.05, so the variance of mean scores is equal in a statistically significant way. Sig T-Test = 0.025 < 0.05. Therefore, the H_{01} hypothesis is

rejected. Thus, it can be concluded that there is a statistically significant difference in the mean scores of OCOP products between Thanh Hoa province and Nghe An province. In which, the mean score of OCOP products in Thanh Hoa is 64.26, in Nghe An province, it is 61.61 (Table 4). The mean score of OCOP products in Thanh Hoa province tends to be higher than the mean score of OCOP products in Nghe An province.

Table 4. The score of OCOP Products in Thanh Hoa Province and Nghe An Province

| | | Thanh Hoa province | Nghe An province | Total |
|----------------|----------------|--------------------|------------------|-------|
| Score | From 50 to 59 | 39 | 54 | 93 |
| | From 60 to 69 | 46 | 32 | 78 |
| | From 70 to 79 | 25 | 28 | 53 |
| | From 80 to 89 | 3 | 1 | 4 |
| | From 90 to 100 | 2 | 0 | 2 |
| Mean | | 64.26 | 61.61 | |
| Std. Deviation | | 8.542 | 7.924 | |
| Total | | 115 | 115 | 230 |

Resource: Analysis results by SPSS

Hypothesis testing H_{02} : There is no difference in the structure of OCOP product types between Thanh Hoa province and Nghe An province.

OCOP products are divided into 6 sectors. In case there are more than two ratios, to test the difference in structure between two localities, Chi-Square Test is used (Chu Nguyen Mong Ngoc, 2008).

Table 5. Chi-Square Tests of Product types*Province

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|---------|----|-----------------------|
| Pearson Chi-Square | 12.491a | 5 | .029 |
| Likelihood Ratio | 14.770 | 5 | .011 |
| Linear-by-Linear Association | 2.161 | 1 | .142 |
| N of Valid Cases | 230 | | |

a. 4 cells (33.3%) have an expected count of less than 5. The minimum expected count is .50.

Resource: Analysis results by SPSS

Because Sig (Chi-Square test) = 0.29 < 0.05. Therefore, the H_{02} Hypothesis is rejected. However, four cells (33.3%) have an expected count of less than 5 (Table 5), so the Chi-Square Test results are not reliable. In this case, Fisher's Exact Test is used for testing.

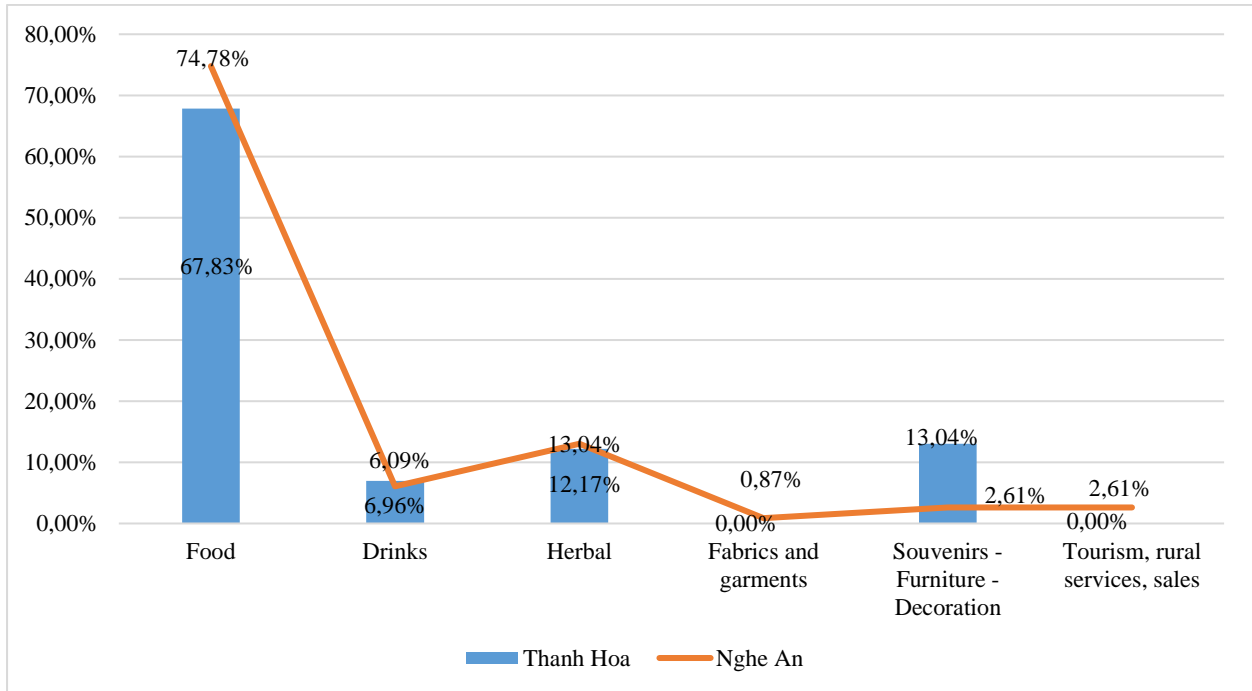
Table 6. Fisher's Exact Test of Product types*Province

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) | Point Probability |
|------------------------------|---------------------|----|-----------------------|----------------------|----------------------|-------------------|
| Pearson Chi-Square | 12.491 ^a | 5 | .029 | .01618 | | |
| Likelihood Ratio | 14.770 | 5 | .011 | .01181 | | |
| Chi-Square | 12.281 | | | .01620 | | |
| Linear-by-Linear Association | 2.161 ^b | 1 | .142 | .15638 | .078 | .014 |
| N of Valid Cases | 230 | | | | | |

- a. 4 cells (33.3%) have an expected count of less than 5. The minimum expected count is .50.
- b. The standardized statistic is -1.470.

Resource: Analysis results by SPSS

The Exact Sig. (2-sided) = 0.0162 < 0.05, so H₀₂ hypothesis is rejected. It can be concluded that there is a statistically significant difference in product structure between Thanh Hoa province and Nghe An province.



Source: People's Committee of Thanh Hoa province and Nghe An province

Figure 1. Structure of product types in Thanh Hoa Province and Nghe An Province

There are some differences in product structure between the two provinces. The proportion of "Food", "Herbal", "Fabric and garment" and "Tourism, rural and sales services" in Nghe An province tend to be higher than Thanh Hoa province, but the proportion of industrial products "Beverages" and "Souvenirs - Furniture - Decorations" in Thanh Hoa province tend to be higher than in Nghe An province (Figure 1)

Hypothesis testing H₀₃: There is no difference in the structure of OCOP product regions between Thanh Hoa province and Nghe An province.

OCOP products are divided into three regions: plain, midland and mountainous, and coastal. Chi-Square Tests are used to test the difference in regional structure between two provinces (Table 7).

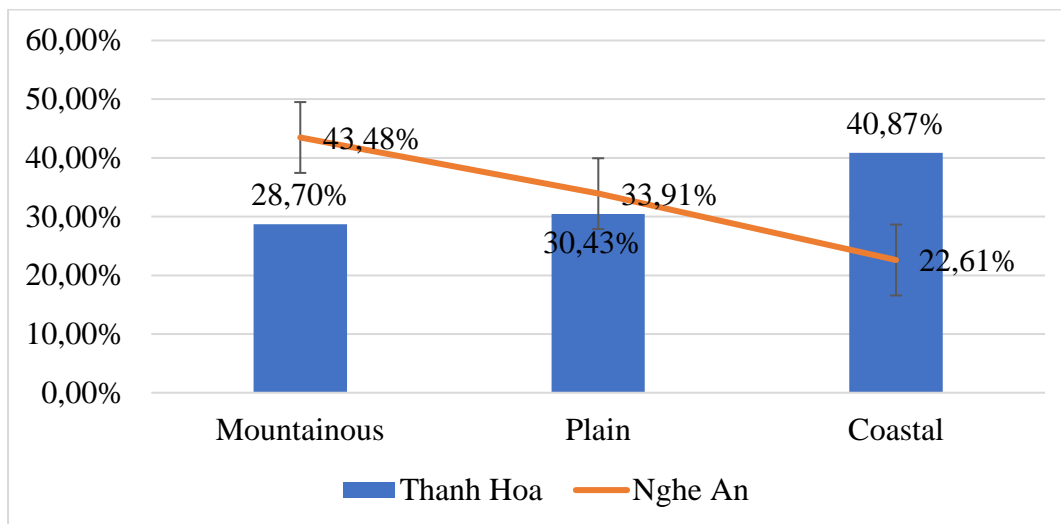
Table 7. Chi-Square Tests of Product Region*Province

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------------------------|----|-----------------------|
| Pearson Chi-Square | 9.739^a | 2 | .008 |
| Likelihood Ratio | 9.850 | 2 | .007 |
| Linear-by-Linear Association | 9.242 | 1 | .002 |
| N of Valid Cases | 230 | | |

a. 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 36.50.

Resource: Analysis results by SPSS

Because $\text{Sig}(\text{Chi-Square}) = 0.008 < 0.05$, so H_{03} hypothesis is rejected. But 0 cells (0.0%) have an expected count of less than 5 (Table 7), it can be concluded that there is a statistically significant difference in the structure of the OCOP product region between Thanh Hoa province and Nghe An province.



Source: People's Committee of Thanh Hoa province and Nghe An province

Figure 2. Structure of product area in Thanh Hoa Province and Nghe An Province

The ratio of OCOP products in the mountainous and Plain regions in Nghe An Province is higher than in Thanh Hoa Province. However, the ratio of OCOP products in the coastal region is higher in Thanh Hoa province than in Nghe An province (Figure 2)

Conclusion

The test results show that there are some differences in OCOP products between Thanh Hoa province and Nghe An province.

By Independent Samples T-Test, it is concluded there is a statistically significant difference in the mean scores of OCOP products between the two provinces. In which, the mean score of Thanh Hoa province is higher than that of Nghe An province. However, the difference is not large. The OCOP product level is decided by scores. Evaluation scores are also a basis for OCOP participants to take measures to overcome weaknesses and local authorities can find effective measures to support products participating in the OCOP program.

By Fisher's Exact Test, there is a difference in the structure of the OCOP product region. OCOP products promote the comparative advantage of each locality. It is possible to draw lessons for other localities in diversifying OCOP products but not separate their comparative advantages. Thanh Hoa province has some advantages in community tourism. Thanh Hoa Provincial People's Committee has also approved the Kho Muong community tourist site project but until the end of 2021, Thanh Hoa province still does not have OCOP products in tourism (Thanh Hoa New Rural Area Coordinating Office, 2021), while in Nghe An province, three OCOP products are certified community tourism sites. Thanh Hoa province can learn from the experience of Nghe An province.

By Chi-Square Tests, there is a difference in the structure of the OCOP product region between Thanh Hoa province and Nghe An province. In Nghe An province, the OCOP products are widely distributed in the mountainous region but in Thanh Hoa province, the OCOP products are widely distributed in the coastal. Despite the significant difference in product structure, both localities can promote their advantages. These results are consistent with reality. Because Nghe An province has more than 80% is mountainous, with many regional specialties. In Thanh Hoa province, there are many famous sea areas with abundant fishery reserves, favorable beneficial for rich products processed from seafood, the most famous of which is fish sauce.

In summary, from the above analysis results, it is possible to make a scientific argument about the difference in the OCOP program in provinces, namely in Thanh Hoa province and Nghe An province. From these analyses, some policies are supported for OCOP products by local governments to commercialize rural products with comparative advantage in their locality.

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