The Level of Closed Relationship of Innovation with Hydroponic Vegetable Sales in Bogor City
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ABSTRACT
Vegetable commodities can also be relied upon as a lucrative business center at this time, along with the times and increased public knowledge of the importance of health. This study aims to identify innovations made by hydroponic vegetable business actors, determine the marketing performance of hydroponic vegetable businesses, and analyze the level of closeness of the relationship between innovation and marketing performance. Respondents in this study amounted to 20 companies that produce hydroponic vegetables. The results concluded that it is essential for every hydroponic vegetable company to achieve high marketing performance, and it is necessary to innovate so that its business venture can develop and be sustainable.
INTRODUCTION

Vegetable commodities can be relied on as a lucrative business center. Along with developments over time and increasing public knowledge of the importance of health, vegetables produced without using pesticides are starting to be chosen for daily consumption. One of them is cultivating a hydroponic system; this is an opportunity to maximize business in the hydroponics sector.

The increase in population, community welfare, and public health knowledge will influence the demand for vegetables, so vegetable production must be increased (Indriasti, 2013). As the demand for hydroponic vegetables increases, the number of hydroponic business actors in Bogor City increases yearly. This is a challenge for hydroponic business actors to maintain their business from the intense competition between vegetable producers, which requires hydroponic business actors in Bogor City to know more about how to improve vegetable products and marketing so that they not only make a profit but can maintain the quality of their products by utilizing various kinds of innovations in the production process to marketing. One of the factors for the success of a farming business can be seen in the level of sales. This requires measuring the relationship between innovation and the level of hydroponic vegetable sales in Bogor.

This research aims to identify innovations carried out by hydroponic vegetable businesses, determine their marketing performance, and analyze the level of relationship between innovation and marketing performance.

LITERATURE REVIEW

Innovation results from developing new products, features, ways of production or sales, or process approaches. (Dwanto, 2013). According to Kotler, P, and Keller (2009), innovation is a person's new products, services, ideas, and perceptions. Innovation is a product or service that consumers perceive as a new product or service. In simple terms, innovation can be defined as a breakthrough related to new products. Kotler, P., and A. Gary (2012) added that innovation is not limited to developing new products or services. Innovation also includes new business thinking and new processes. Innovation is also seen as a company's mechanism for adapting to a dynamic environment. Therefore, companies are expected to create new thoughts and ideas that offer innovative products and provide satisfactory customer service. Innovation has increasingly essential meaning as a tool to maintain the company's survival and to excel in competition.

According to Kemp et al. (2003), innovation can be applied to large and small companies. There are three dimensions of innovation, namely: 1) input innovation. Namely, the company carries out research and development or investments that are developed and if the research results can test the results of what has been created; 2) process innovation, where managers must always increase technological innovation as the organization's activities run without supported by technological innovation, it is impossible for companies to win the
competition and 3) innovation in output of new or developed products or processes will become an attraction for consumers.

Agricultural Innovation

In Indonesia, agriculture is not just a sector, it's the backbone of our economy. As an agricultural country, our progress and prosperity are deeply intertwined with the success of our farmers. However, the path to success is not without its challenges. Every year, our farmers face a myriad of issues that make their journey difficult. One such challenge is the need to adapt to agricultural technology.

Agricultural technological innovation holds immense potential to increase agricultural productivity, especially considering Indonesia's land expansion challenges (extensification). The increasingly widespread conversion of productive agricultural land to non-agricultural land necessitates a technological shift. Progress and development in any field cannot be separated from technological progress; the agrarian revolution was driven by discovering new machines and methods in the farming sector. One of them is hydroponic system technology, which is an innovation in cultivating plants without using soil but using water (H2O).

Agricultural Product Innovation

Product innovation includes:
1. Various product development activities.
2. Improvements.
3. These are entirely new developments.
4. Expansions that increase the range or number of product lines a company can offer.

Product innovation cannot be equated with invention. An innovation is defined as an idea, product, or technology developed and marketed to customers and perceived as something new. We call it the process of identifying, creating, and providing new product value or benefits not previously offered in the market with new or original products, product improvements, modifying products, and new brands of developing companies (Kotler & Armstrong, 2008).

Agricultural Marketing Innovation

Marketing innovation is the application of new marketing methods or significant improvements in product packaging or design, product placement, product promotion, or price. Packaging in increasing innovation is the most crucial thing because companies use packaging to make products more attractive in terms of shape and color so that the quality of the product can be maintained. Many companies are aware of the importance of creating attractive product packaging. This is because companies use packaging for promotion (Septian, 2019).

Marketing Performance

Marketing performance is a measure of achievement obtained from the overall marketing activities of a company or organization. Marketing performance can also be seen as a concept used to measure the extent of market
performance achieved by a product produced by the company (Sulaeman, 2018). According to (Gao, 2010), "marketing performance is a multidimensional process that includes three dimensions of effectiveness, efficiency, and adaptability; effectiveness and efficiency and an organization's marketing activities with market-related objectives, such as revenue, growth, and market share." Syarif et al. (2019) stated that marketing performance is a measure of performance obtained from comprehensive marketing activities of an organization or company. Marketing performance is a measure of achievement obtained from a company or organization's overall marketing process activities.

1. When a company determines its marketing performance, the primary goal is to boost sales. However, marketing performance is not limited to this. It also encompasses profitability and customer satisfaction, two key dimensions. As Walker et. al., (2001) point out, these are the two dimensions that companies expect to see in their marketing performance. Profitability is a company that generates profits over time, providing a flow of income that far exceeds the costs incurred to attract, sell, and serve customers.

2. Customer satisfaction is a central concept in business and management discourse, useful as a reference in evaluating product performance in a company, especially in providing information about satisfaction with the products consumed.

Hartanti et. al, (2013) assert that enhancing marketing performance is intricately linked to innovation. This includes both technical and product innovation. The outcome of such innovation is a boost in marketing performance, evident in increased sales volume, a larger customer base, and the ability to generate profits for the company.

Based on several theories above, it can be synthesized that marketing performance is the process and result of implementing policies, programs, promotional activities, distribution, and product sales that aim to obtain financial and non-financial profits while striving to maintain, improve, and expand marketing performance in the face of competition.

**Sales Level**

Sales levels can be described as feedback from marketing activities carried out by the company. Sales has various meanings depending on the scope of the problem being discussed. In this research, sales levels were measured using a Likert scale to measure the attitudes and opinions of hydroponic vegetable businesses in Bogor City.

After the hypothesis section, if your study is quantitative, please provide a conceptual framework here, or theoretical framework, if qualitative.

**METHODODOLOGY**

The location of this research was carried out at a company that produces hydroponic vegetables in Bogor City. The research unit is a hydroponic vegetable producer business unit in Bogor City. A census of 20 companies determined the
total number of hydroponic vegetable producers in Bogor City. This research was carried out from May 2022 to August 2022.

This research uses primary and secondary data. Primary data was collected directly from 20 respondents who were hydroponic vegetable producers in Bogor City, who were interviewed using a prepared questionnaire. Meanwhile, secondary data is obtained from secondary sources. This research was analyzed using two methods, namely descriptive statistics and the verification method, which used Spearman.

Sugiyono (2018) states that value rank Spearman can be categorized into several categories. The choice of many categories is determined subjectively, but in general, the values Spearman categorized into the following five categories:

1. If 0 < 0.2, then the two variables are categorized as very low-correlated
2. If 0.2 ≤ |rs| < 0.4, then the two variables are categorized as having low correlation
3. If 0.4 ≤ |rs| < 0.6, then the two variables are categorized as moderately correlated
4. If 0.6 ≤ |rs| < 0.8, then the two variables are categorized as highly correlated
5. If 0.8 ≤ |rs| < 1, the two variables are categorized as highly correlated.

The guidelines for providing an interpretation of the correlation relationship between innovations X1

Table 1. Relationship Between Innovation and Type of Innovation Component with Sales of Hydroponic Vegetables

<table>
<thead>
<tr>
<th>Relationship between Innovation Types (X1, X2, X3) and Sales of Hydroponic Vegetables</th>
<th>Relationship between Innovation Type Components and Hydroponic Vegetable Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production X1</td>
<td>Production X1</td>
</tr>
<tr>
<td>Product X2</td>
<td>Product X2</td>
</tr>
<tr>
<td>Marketing X3</td>
<td>Marketing X3</td>
</tr>
<tr>
<td></td>
<td>X11</td>
</tr>
<tr>
<td></td>
<td>X12</td>
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<tr>
<td></td>
<td>X13</td>
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<td></td>
<td>X21</td>
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<td>X22</td>
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<td></td>
<td>X23</td>
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<td>X31</td>
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<tr>
<td></td>
<td>X32</td>
</tr>
<tr>
<td></td>
<td>X33</td>
</tr>
</tbody>
</table>
RESULTS
Characteristics of Hydroponic Vegetable Companies
1. Based on Company Age

![Histogram of company age](image)

Figure 1. Age of Hydroponic Vegetable Companies, 2022
Source: Data Processed by Researchers, 2022

Figure 1 shows that the company’s age or the length of time the company was formed was, at most, 2-4 years old, with as many as 13 companies with a percentage of 65%. Six companies were formed in 5-7 years, with a percentage of 30%. Meanwhile, one company was formed >8 years ago with a percentage of 5%. This shows that many companies are still relatively in the early growth and development stages.

2. Based on Land Ownership Status

![Bar chart of land ownership status](image)

Figure 2. Land Ownership Status, 2022
Source: Data processed by researchers, 2022

Figure 2 shows that the company's land ownership status is mainly on its land, with as many as 14 companies having a percentage of 70%. The ownership status of the company’s borrowed land is four companies with a percentage of 20%. Meanwhile, the company's waqf land is two companies with a percentage of 10%. This shows that the company has a solid commitment to
managing company land. Therefore, owning your land can also provide flexibility in developing a hydroponic plant business.

3. Based on Number of Commodities

![Figure 3. Number of Hydroponic Vegetable Commodities, 2022](image)

Source: Data processed by researchers, 2022

Table 3 shows that most hydroponic business actors cultivate at most 3-4 commodities, as many as eight companies with a percentage of 40%. Furthermore, six hydroponic business actors cultivate 1-2 commodities with a percentage of 30%. Business actors who cultivate 5-6 commodities are four companies with a percentage of 20%. Business actors who cultivate more than six commodities are two companies with a percentage of 10%. This shows that by limiting the number of commodities the company cultivates to 3-4, the company can focus on quality production and have a deeper understanding of its products.

4. Based on Sales Turnover

![Figure 4. Company Sales Turnover, 2022](image)

Source: Data Processed by Researchers, 2022

Figure 4 shows that most hydroponic business actors have a sales turnover of 1,000,000 - 10,000,000 as many as 12 companies with a percentage of 60%. Furthermore, business actors with a turnover of less than IDR 1,000,000 are one
company with a percentage of 5%. Moreover, there are seven companies with a turnover of over IDR 10,000,000. - This shows that the majority of companies that achieve sales turnover in the range of IDR 1,000,000-10,000,000 reflect stability in their income, and these companies have the potential for further growth and contribute to the dynamics of the hydroponic vegetable market in Bogor City.

**Relationship between Innovation and Sales Level of Hydroponic Vegetables in Bogor City**

Every business actor, whether farming or individual, hopes their business will continue to develop and succeed. In today's business world, innovation needs to be implemented in every process, both production and marketing, to achieve more positive results. One factor in the success of a farming business can be seen in the level of sales. This requires using correlation analysis to measure the relationship between innovation and the level of sales of hydroponic vegetables in the city of Bogor. *Rank Spearman.*

**Validity Test Results of the Relationship between Innovation and Sales Levels**

Based on the results of the data analysis, it was found that the instruments for each variable in this research were valid. Each instrument is above the significant value, namely more than (>0.468). For 20 respondents (pdf) of N - 2 (20 - 2 = 18), the r-value is obtainable at 0.468. r value table This is then used as a criterion for the validity of questionnaire items. The total item correlation coefficient must be greater than 0.468 to be declared valid. Table 2 of the validity test results can be seen as follows

<table>
<thead>
<tr>
<th>Item</th>
<th>R&lt;sub&gt;calculated&lt;/sub&gt;</th>
<th>R&lt;sub&gt;table&lt;/sub&gt;</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>XI</td>
<td>1 0.667</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>2 0.603</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>3 0.603</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td>X2</td>
<td>1 0.541</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>2 0.667</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>3 0.603</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td>X3</td>
<td>1 0.603</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>2 0.541</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>3 0.667</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td>Y</td>
<td>1 0.603</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>2 0.603</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>3 0.541</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>4 0.667</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>5 0.603</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>6 0.603</td>
<td>0.486</td>
<td>Valid</td>
</tr>
</tbody>
</table>

*Source: Data Processed by Researchers, 2022*
So, all question items in the questionnaire for the innovation and sales level variables have valid status because the count is greater than the table (0.468), and the data obtained can be analyzed further for hypothesis testing.

Reliability Test Results of the Relationship between Innovation and Sales Levels

The reliability testing results are by comparing if the data processing results are more than or equal to 0.6, then the data can be said to be reliable. If it is less than 0.6, then the data is unreliable. After testing the validity, invalid items are removed, and valid items are included in the reliability test. Table 3 of the reliability test results can be seen as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mark</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production Innovation (X1), Product Innovation (X2) and Marketing Innovation (X3) Sales Rate (Y)</td>
<td>Cronbach’s Alpha</td>
<td>0.912</td>
</tr>
</tbody>
</table>

Based on the results of the data analysis, it was found that the innovation and sales level variables in this research were consistent or reliable. Each variable instrument has a reliability value that meets the requirements and is declared reliable because Cronbach’s alpha is above 0.6.

**Relationship between Production Innovation (X1) and Sales Level**

Based on Table 4 for resultsrank spearman The relationship between production innovation (X1) and sales levels is as follows:

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>Production Innovation (X1)</th>
<th>Sales Level (AND)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production Innovation (X1)</td>
<td>Correlation Coefficient</td>
<td>1.000</td>
</tr>
<tr>
<td>Say. (2-tailed)</td>
<td>N</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Sales Rate (Y)</td>
<td>Correlation Coefficient</td>
<td>.524*</td>
</tr>
<tr>
<td>Say. (2-tailed)</td>
<td>N</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Based on the output above, it is known that N, or the amount of research data, is 20, which is the sig value. (2-tailed) is <.001, as is the basis for decision-making above, so it can be concluded that there is a significant relationship between production innovation and sales levels. Next from the output above is the known correlation coefficient (correlation coefficient), 0.524. This value indicates a moderate relationship between production innovation and sales levels because it is between 0.400 and 0.599. The correlation coefficient figure in
the above results is more than 0.524 cheerful > t table 0.475 (rho table), which means H12 accepted.

**Relationship between Product Innovation (X2) and Sales Level**

Based on Table 5 for results rank spearman The relationship between product innovation (X2) and sales levels is as follows:

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>Product Innovation (X2) Correlation Coefficient</th>
<th>Sales Level (AND)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>0.576*</td>
<td>1.000</td>
</tr>
<tr>
<td>Product Innovation (X2)</td>
<td>Say, (2-tailed)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the output above, it is known that N, or the amount of research data, is 20, which is the sig value. (2-tailed) is <.001, as is the basis for decision-making above, so it can be concluded that there is a significant relationship between product innovation and sales levels. Next from the output above is the known correlation coefficient (correlation coefficient), 0.576. This value indicates a moderate relationship between product innovation and sales levels because it is between 0.400 and 0.599. The correlation coefficient figure in the above results is more than 0.576 cheerful > t table 0.475 (rho table), which means H13 accepted.

**Relationship between Marketing Innovation (X3) and Sales Level**

Based on Table 6 for results rank spearman The relationship between marketing innovation (X3) and sales levels is as follows:

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>Marketing Innovation (X3) Correlation Coefficient</th>
<th>Sales Level (AND)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>0.585*</td>
<td>1.000</td>
</tr>
<tr>
<td>Marketing Innovation (X3)</td>
<td>Say, (2-tailed)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the output above, it is known that N, or the amount of research data, is 20, which is the sig value. (2-tailed) is <.001, as is the basis for decision-making above, so it can be concluded that a significant relationship exists between marketing innovation and sales levels. Next from the output above is the known correlation coefficient (correlation coefficient), which is 0.585, so this value indicates a moderate relationship between marketing innovation and sales levels because it is at a level between 0.400 – 0.599. The correlation coefficient figure in the above results is more than 0.585 cheerful > t table 0.475 (rho table), which means H14 accepted.
Relationship between Production Innovation (X1), Product Innovation (X2) and Marketing Innovation (X3) with Sales Level (Y)

Based on Table 7 for results rank spearman The relationship between production innovation (X1), product innovation (X2) and marketing innovation (X3) with the level of sales (Y) is as follows:

<table>
<thead>
<tr>
<th>Spearman's rho</th>
<th>Production, Product and Marketing Innovation (X1, X2, X3)</th>
<th>Correlation Coefficient</th>
<th>Sales Level (AND)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Rate (Y)</td>
<td>Correlation Coefficient</td>
<td>.876∗</td>
<td>1.000</td>
</tr>
<tr>
<td>Say. (2-tailed)</td>
<td>. &lt;.001</td>
<td>.</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>20</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Based on the output above, it is known that N, or the amount of research data, is 20, which is the sig value. (2-tailed) is <.001, as is the basis for decision-making above, so it can be concluded that a significant relationship exists between marketing innovation and sales levels. Next from the output above is the known correlation coefficient (correlation coefficient), which is 0.585, so this value indicates a moderate relationship between marketing innovation and sales levels because it is at a level between 0.400 – 0.599. The correlation coefficient figure in the above results is more than 0.585 cheerful> table 0.475 (rho table), which means H14 accepted.

DISCUSSION

Our recommendations are based on a thorough analysis of the data obtained from production innovation (X11, X12, high at 0.633) and the close relationship between marketing innovation (X31, X32). The highest level of relationship closeness is marketing innovation (X31, X32, Like; online chat through WhatsApp, promotions, product introductions via social media, aimed at increasing sales or market share to make it easier for hydroponic vegetable business actors to carry out marketing strategies, namely forms of promotion, meeting predetermined sales targets and looking for new markets to increase the number of consumers in achieving profits/benefits higher.

Sales Level of Hydroponic Vegetable Production in 2018-2021 (Kg)

Based on data results for sales of hydroponic vegetable products in 2018-2019 (Kg), the highest was obtained from the Hanponic Farm producer with an average growth reaching 62.24%, and the lowest was obtained from the Hiroto Farm producer with an average growth reaching 1.04%. Then, for sales of hydroponic vegetable products in 2020 (Kg), the highest was obtained from the Pasir Kuda 1001 Hydroponics producer with an average growth of 21.70%, and the lowest was obtained from the Agricon producer with an average growth of 0.17%.
Furthermore, for sales of hydroponic vegetable products in 2021 (Kg), the highest was obtained from the Healthy Nutrition Green Hydroponic Garden producer with an average growth of 15.85%, and the lowest was obtained from the Hiroto Farm producer with an average growth of 0.20%. Meanwhile, for sales of hydroponic vegetable products in 2018-2021 (Kg), the highest was obtained by the Hanponic Farm producer with an average growth of 25.28%, and the lowest was received by the Hiroto Farm producer with an average growth of 1.07%.

**Sales Level of Hydroponic Vegetable Production Based on Vegetable Type in 2018-2021 (Kg)**

Based on the results of data on sales levels per type of hydroponic vegetables in 2018-2019 (Kg), the highest was obtained from the Hanponic Farm producer with spinach vegetables at 1,174/kg, and the lowest was obtained from the Hiroto Farm producer with lettuce at 223/kg. In 2020-2021 (Kg), the highest was obtained from the Healthy Nutrition Hydroponic Green Garden producer with Lettuce vegetables at 430/kg, and the lowest was obtained from Hiroto Farm producers with mustard greens at 414/kg.

**Sales Level Sale Turn Over in 2018-2021**

Based on data results in 2018-2019 *sale turnover*, the highest was obtained from the producer of Horse Sand 1001 Hydroponics with an average growth reaching 62.24%, and the lowest was obtained from the Kebun Wira producer with an average growth reaching 1.04%. Then, in 2020 *turnover*, the highest was obtained from Ayudia Hydroponics producers with an average of 34.34%, and the lowest was obtained from RH Hydroponics producers with an average growth of 0.17%.

Then, in 2021, sales turnover was highest from the Hanponic Farm producer, with an average growth of 15.85%, and the lowest from the Wira Garden producer, with an average increase of 0.20%. For sale *turnover* in 2018-2021, the highest was obtained from the producers of Horse Sand 1001 Hydroponics, with an average of 23.32%, and the highest obtained was from the Kebun Wira producers, with an average of 1.07%.

**Sales Level Member Of Customer in 2018-2021**

Based on data results in 2018-2019 members of *customers*, the highest was obtained from Hydroponic Garden producers at 89.19%, and the lowest was obtained from Bogor Hydroponic and Healthy Nutrition Green Hydroponic Garden producers at 0.00%. Then, in 2020, the sales level will remember *that* the highest was obtained from the producer of Young Hydroponic Leaves at 59.44%, and the lowest was obtained from the producer of Healthy Nutrition Green Hydroponic Gardens at 0.00%.

Furthermore, in 2021, the sales level will remember *customers*. The highest was obtained from the Wira Garden producer at 41.67% and the lowest from the Hiroto Farm producer at 0.00%. For members of customers in 2018-2021, the highest was obtained from the Hydroponic Young Leaf producer at 33.46%, and the lowest was obtained from the Hydroponic Ayudia producer at 1.01%.
Sales Level Market Share in 2018-2021

Based on data results in the 2018-2019 market share, the highest was obtained from the Pasir Kuda 1001 Hydroponics producer at 40.74%, and the lowest was 2020, the highest market share was obtained from the BSI Farm Hydroponics producer at 13.95%, and the lowest was obtained from Kujang Hydroponics at 1.97%. Furthermore, in 2021, the sales level will be market share. The highest was obtained from the Hanponic Farm producer at 10.60%, and the lowest was obtained from the Kujang Hydroponic producer at 0.19%. Sales level on market share from 2018-2021: The highest was obtained from the producer of Kuda 1001 Hydroponic Sand at 14.11%, and the lowest was obtained from the RH Hydroponic producer at 0.52%.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research conducted, the author can formulate the following conclusions:

1. The research results show the most dominant company age is 2-4 years old, the most dominant land ownership status is self-owned, the number of commodities cultivated is the most predominant with 3-4 commodities, and the sales turnover is dominated by 1-10 million per month.

2. Based on the results of the relationship between innovation and the level of sales of hydroponic vegetables in the city of Bogor, it can be seen from the positive correlation coefficient, namely Rcount 0.876 > Rtable 0.475 that this variable has a very high positive relationship, meaning that business actors are increasingly innovating both in the production process and the marketing process. Then, increasing the level of sales will result in better results and income.

3. Based on the results of the level of closeness of the relationship between the components of the type of innovation and the level of sales in Bogor City for production innovation (X11, X12, It can be seen from the positive correlation coefficient number, namely Rcount 0.636 > from Rtable 0.475 and the level of closeness of the most positive relationship in marketing innovation (X31, X32,

4. Based on the production level in 2018-2021, the highest was Hanponic Farm at 25.28%, and the lowest was Hiroto Farm at 1.07%, then the production level per type of vegetable in 2018-2021 was the highest at Hanponic Farm with spinach at 1,174/ Kg and the lowest is Hiroto Farm with lettuce at 636/Kg, for sale turn over in 2018-2020 the highest is Pasir Kuda 1001 Hydroponic at 23.32%, and the lowest is Kebun Wira at 1.07% and member of customers in 2018-2021, the highest was Daun Muda Hydroponics at 33.46%, and the lowest was Ayudia Hydroponics at 1.01% and for market share the highest was Pasir Kuda 1001 Hydroponics at 14.11% and the lowest was RH Hydroponics at 0.52%.
REFERENCES