

Measuring the Impact Fund Age on Investment Funds Performance Selected Cases from Saudi Financial Market during the Period (2010-2017)

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قياس أثر عمر الصندوق على أداء صناديق الاستثمار

حالات مختارة من السوق المالي السعودي خلال الفترة 2010-2017

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Abstract:

This study aims to highlight the impact Fund age on investment funds performance. To achieve this goal, we selected a sample of investment funds operating in the Saudi financial market during the period 2010-2017, using statistical Software: SmartPls v3, Spss19 and Excel 2007, the results of the study indicated a significant impact of fund age on the performance of investment funds. The relationship between the two variables has inverse, i.e., the longer the life of the Fund the less the performance of investment funds.

Keywords: Fund age; performance of investment funds; Market Index; Annual returns; Saudi financial market.

Jel Classification Codes: G1 ,G11 ,G15,C30.

ملخص:

تهدف هذه الدراسة إلى إبراز أثر عمر الصندوق على أداء صناديق الاستثمار، ولتحقيق هذا الهدف قمنا باختيار عينة من صناديق الاستثمار العاملة بالسوق المالي السعودي خلال الفترة 2010-2017، حيث يتوفر فيها التجانس من حيث فئات العمر المختارة، وتم اعتبار متوسط العوائد السنوية، خطر تذبذب العوائد السنوية والتفوق على مؤشر السوق، كمتغيرات على أداء صناديق الاستثمار، قمنا بتحليل النتائج باستخدام البرامج الإحصائية: SmartPls v3, Spss19 و Excel2007، أشارت نتائج الدراسة إلى وجود تأثير معنوي لعمر الصندوق على أداء صناديق الاستثمار، حيث كانت العلاقة عكسية بين المتغيرين، أي كلما زاد عمر الصندوق كلما قل أداء صناديق الاستثمار.

الكلمات المفتاحية: عمر صندوق؛ أداء صناديق استثمار؛ عوائد سنوية؛ مؤشر سوق؛ سوق مالي سعودي.

تصنيف JEL: G15، G11، G1

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I- Introduction :

Investment funds are considered financial structures that have been widely accepted by investors in the financial markets, whether they are regular or specialized, as a result of their investment characteristics and advantages in terms of lower risks compared to other financial investments. The achieved return is the most important factor that any investor in securities cares about, and the main reason for evaluating and choosing the most appropriate investment fund for him. To evaluate the performance of investment funds, many specialists point out that this performance cannot be determined and estimated through the return / risk binary only, as many internal and external factors converge that clearly affect the performance of investment funds of all kinds, and perhaps most importantly. These factors include: the size of the investment fund, the type of fund, the relative weight of each component of the fund's portfolio, the cost of managing the fund, and the characteristics of fund managers. Therefore, we tested the effect of the life span of the fund, considering that age is one of the internal factors that affect performance and that must be taken into consideration when choosing the fund and the appropriate financial markets in general and emerging markets in particular, and among many studies such as the study (See & Jusoh, 2012) There is a strong relationship between the age of the fund and the performance of investment funds, through which its nature is from an inverse relationship to a positive relationship, so we believe that it is important to study the relationship between the age of the fund and its performance.

1. The problem of studying

This study seeks to clarify the effect of the fund's life on the performance of a selected sample of investment funds active in the Arab Saudi financial market during the period 2010-2017. Accordingly, the following problem can be posed: Does the life of the fund affect the performance levels of investment funds operating in the Arab Saudi financial market during the period 2010-2017?

The importance of this problem increases due to the different age of investment funds on the one hand, and the different levels of performance in identifying investment funds on the other hand, and from here we can proceed from the following hypotheses:

- 1- There is a statistically significant effect of the age of the fund on the average annual returns of investment funds operating in the Saudi financial market during the period 2010-2017.
- 2- There is a statistically significant effect of the age of the fund on the degree of fluctuation in the annual returns of investment funds operating in the Saudi financial market during the period 2010-2017.
- 3- There is a statistically significant effect of the fund's age on the superiority of investment funds operating in the Saudi financial market compared to the market index during the period 2010-2017.

2. Objectives of the study

This study generally aims to highlight the effect of age on the performance of investment funds operating in the Arab Saudi financial market during the period 2010-2017, where the life of the fund was divided into 3 age groups: short, medium and long, the performance of investment funds was determined by the average annual returns, and the risk of fluctuating returns. Annual and outperforming the market index and these goals can be mentioned in a detailed way as follows:

- Determine the nature of the relationship between the fund's age and the level of investment funds' performance, according to what was mentioned in previous studies;
- Providing an update analysis of the annual returns achieved from the studied investment funds during the period 2010-2017;
- Determining the extent of fluctuation in the annual returns achieved from the studied investment funds during the period 2010-2017;
- Analyzing the ability of studied investment funds to outperform the market index during the period 2010-2017;
- Providing a comparative analysis of the variables (average annual returns, and outperforming the market index) according to age groups (short, medium, long);

-Determine the nature of the relationship between the fund's life and the levels of performance of the investment funds studied during the period 2010-2017.

3. The limits of the study:

The study sheds light on the study of the relationship between the ages of the funds. The limits of this study are as follows:

-Independent variable: The independent variable is determined by the life of the fund, as it is divided into three categories: short-lived, medium and long-lived funds;

-The dependent variable: the dependent variable is determined by the performance of investment funds, where the average annual returns, the degree of volatility of annual returns, and the superiority of the market index, were adopted as its determinants;

-Time limits: the study period was defined as: 8years from 2010-2017, as we depended on the availability of all study data for determining them;

-Study environment: cases were selected from the Arab Saudi financial market as one of the leading financial markets in the field of investment funds.

4. Previous studies and their use:

Those interested in the performance of investment funds notice the existence of many studies that have studied the effect of the age of investment funds on their performance, as the variation of the results of this study according to the variation of the environments and study periods. In this element, we will try to highlight the most important results of studies related to our topic:

-A study (2010 et, la Hamza) attempted to evaluate the performance of investment funds in Malaysia, as it relied on the risk of fluctuating annual returns and outperforming the market portfolio as indicators of the performance of investment funds. The results of this study indicated that the performance of investment funds over the performance of the market portfolio during the years 1997-1998, while it was poor during 1995-1997 and 1998-2005, as we conclude that the performance of investment funds varies over time.

-A study (Babar, et, la, 2013) compared the performance of investment funds with the performance of the market index in Pakistan, during the period 2004-2011, as the results of this study indicated that the performance of these funds was weak to large extent compared to the performance of the market.

-Study (Jaksic, et, la 2015): This study evaluated the performance of investment funds in Bangladesh, as it was applied to 31 investment funds. The results of the study showed a negative performance of the study sample compared to the performance of the market index in Bangladesh.

-A study (Rakibul & Arif, 2016) evaluated the performance of investment funds in the Republic of Serbia during the period 2009-2012, applying to a sample of 8 investment funds, as the study found that the performance of seven of the eight funds analyzed was low compared to the index market.

-(study Filipe, 2018) an attempt to determine the nature of the relationship between the characteristics of the fund(size, ratio of expenses and age) and the performance of investment funds in Poland, as 152 operating stock funds were selected during the period 2002-2015, the results of this study indicated that the size of the fund the ratio of disbursements has a positive effect on the performance of the studied funds, while the life of the fund negatively affects the performance of the funds.

-A study (Kaur, 2018) is an attempt to measure the impact of the selected fund's characteristics on the performance of investment funds, as 4 factors (fund size, expense ratio, and portfolio turnover ratio and fund age) were chosen and applied to a sample of investment funds in Indian stocks for the period 2004-2013.

The results of this study indicate that the fund characteristics such as size, expense ratio, portfolio turnover ratio, and age affect the investment fund strategy.

-A study (Frumkin & Vandergrift, 2009) the results of this study revealed a negative relationship between age and the fund's returns that are the longer the fund's life, managers suffer from a deviation in the method, which leads to a decrease in annual returns.

-A study (See & Jusoh, 2012) evaluated the fund characteristics that affect performance of investment funds, as it targeted 69 local equity funds in Malaysia during the period 2005-2009, of which 44 were conventional and 25 Islamic funds, as they focused on risk factors, funds size, expense ratio, turnover ratio and fund age, as the results of this study indicated that there is a close relationship between the fund's life and the performance of investment funds.

-Study (Moore, 2016) This study focused on studying the relationship between age and performance under risk, as it found that funds whose age is less than three years has lower returns with less risk compared to investment funds of more than three years, meaning there is no significant relationship. A statistic between age and performance, but therev is a strong positive relationship between age and risk measured by standard deviation.

-A study (Webster & Fok,2002) focused on the relationship between the fund's performance and its lifetime, as it concluded that there is no significant relationship between the fund's life and annual returns, and there is also a strong negative relationship between the fund's life and market return.

The previous studies presented dealt with the relationship of fund life to the performance of investment funds. The results of these studies between the presence of an effect or not were different, in addition to the difference in the nature of the relationship between the fund's age and performance levels, as it varied from inverse to direct. By reviewing and summarizing the results of previous studies, the difference can be explained. Its results are due to several reasons, due to the different study environments and timing, in addition to a set of different strategies, and this study differs from the rest of the studies in dividing the age of the fund into 3 categories, in addition to: The different study environment represented in: The Saudi financial market

II- Methods and Materials:

We selected 12 investment funds from the Arab Saudi financial market during the period 2010-2017 in order to measure the effect of age on the performance of investment funds, as they were divided according to age groups (short, medium and long), as each category included 4 investment funds.

1- Data and sources for obtaining it:

The sources of obtaining study data can be determined according to the nature of each study variables:

-The dependent variable (the performance of investment funds): the data are represented in the annual returns of 12 investment funds during the period 2010-2017, where the average annual returns for the period 2010-2017were adopted as an indicator of the performance of investment funds.

-the independent variable (the age of the fund): The date of creation of each of the studied funds was obtained through its financial reports, where the age of the investment funds was divided according to 3 categories, (short, medium and long-lived, see table appendix No: 02

2- Study Model:

$$\text{MFP} = F(\text{Fund Age})$$
$$\text{MFP} = a + b \text{FA}$$

Where :

- **MFP**: the performance of investment funds
- Funds age : The age of the fund.
- B of the fund's lifetime; A : the regression constant.

3- The Study hypothesis test :

The hypothesis of the investment funds studied is affected by the life of the fund, considering the three categories : short, medium and long, from it the study hypothesis can be constructed and statistically tested as follows :

3.1 First hypothesis test :

« **H₀** has no statistically significant effect of the fund's age on the average annual returns of the studied investment funds during the period 2010-2017.

« **H₁** there is a statistically significant effect of the fund's age on the average annual returns of the studied investment funds during the period 2010-2017.

After analyzing the results of testing the first hypothesis, we conclude that there is an inverse relationship between the average annual returns and the lifetime of the fund, that is, the greater the lifetime of the fund, the lower the average annual returns. This relationship appeared through the negative B coefficient signal (-0.588), while the level of significance reached – The P-value is 0.003, which is less than the approved level of significance, so we will not accept the null hypothesis and accept the alternative, which confirms the existence of a statistically significant effect of the age of the fund on the average annual returns of the studied investment funds during the period 2010-2017.

3.2 The second hypothesis test:

H₀ has no statistically significant effect on the age of the fund on the age of the fund on the risk of fluctuation in the annual returns of the studied investment funds during the period 2010-2017.

H₁ there is a significant, statistically significant effect of the age of the fund on risk of fluctuation in the annual returns of the studied investment funds during the period 2010-2017.

The results of the second hypothesis test indicate the existence of an inverse relationship between the risk of annual returns fluctuation and the life of the fund, that is, the the greater the life of the fund, the lower the risk of fluctuation of annual returns, as this inverse relationship appeared through the negative sign of the coefficient of B (-1.695), while the level of significance reached P-value values 0.000, which is less than the approved level of significance, so we will not accept the null hypothesis and accept the alternative, which confirms the existence of a statistically significant effect of the age of the fund on the fluctuation of the annual returns of the studied investment funds during the period 2010-2017.

3.3 The third Hypothesis test :

H₀ has no statistically significant effect on the age of the fund on the superiority of studied investment funds compared to the market index during the period 2010-2017.

H₁ there is a statistically significant impact of the fund's age on the superiority of the studied investment funds compared to the index market during the period 2010-2017.

The results of the third hypothesis test revealed the existence of an inverse relationship between the superiority of investment funds over the market index and the age of the fund, that is, the longer the fund, the less the outperformance, as this inverse relationship appeared through the negative B coefficient sign (-0.478), while the level of significance reached-value. P-value 0.016, which is less than the approved level of significance, so we will not accept the null hypothesis and accept the alternative, which confirms the existence of statistically significance impact of the fund's age on the ability of investment funds to outperform the market index during the period 2010-2017.

3.4 Macro model analysis:

A simple regression model was calculated between the independent variable, the performance of investment funds during the period 2010-2017, where the following can be analyzed:

-Regression equation: The regression line equation between the independent variable age and the performance of investment funds can be written as follows

$$\text{MFP} = 12.351 - 0.367 \text{ Age}$$

- 12.351 – 0.367 Age Correlation coefficient between age and the performance of investment funds was 0.508, while the R-deux adjust coefficient was 0.459, which means that the age

independent variable explains 45.90% of the changes that occur in the performance of investment funds and remaining percentage is due to other factors;

-The indication of the beta coefficient is negative (-0.713), which means that the studied investment funds during the period 2010-2017 is inversely related to the age of the fund, the lower the performance;

-The level of significance and the calculated F-value: the level of significance for the ANOVA test was 0.009, which is less than the level of significance adopted in the study 0.05, which means rejecting the null hypothesis, and accepting the alternative hypothesis. Which states: "There is a statistically significant effect of the age of the fund on the performance of the studied investment funds during the period 2010-2017".

These methods and tools must be presented precisely and clearly without exaggeration so that other researchers can re-examine or verify them. The author can describe the tools and methods used in the form of a scheme, table or diagram to explain methods used, This section is divided into sub-sections, where its contents vary according to the subject matter of the article.

III- Results and discussion :

This element presents the findings and the various interpretations associated with them, as we focus on the relationship of evolutionary and comparative analysis with the statistical analysis of the results of the study, as follows:

The developmental analysis of the average annual returns of the studied investment funds showed their ability to achieve positive average returns during the study period, as they ranged between the lowest average of the Al Ahli trading fund in riyals of 0.853%, and the highest average of the Jadwa Arab Saudi Equity Fund by 12.4%, this is explained by the good performance of these funds during the period studying;

Comparative analysis of the average annual returns of the studied investment funds reveals the superiority of short-lived investment funds with an average of 7.110025, and then medium-life investment funds with an average of 6.4394, then long-life investment funds with an average of 3.43545, this comparative analysis confirms the results of the statistical analysis, which indicated the existence of an inverse relationship between the life of the fund and the average annual returns achieved;

The evolutionary analysis of the annual returns fluctuation revealed that there is a variation in this risk among the studied investment funds, where the lowest fluctuation was in the Al-Mubarak Riyadh trading fund with a deviation of 0.67479, while the highest fluctuation of the annual returns was in the Riyadh fund for small and medium enterprises with a deviation of 17.86452, this analysis confirms the findings of the statistical analysis, that there is an inverse relationship between age and the risk of annual returns fluctuation;

The evolutionary analysis shows the ability of the studied investment funds to outperform the market index, 10 mutual funds managed this, as their performance was positive compared to the performance of the market index, while the Al Ahli small and medium enterprise fund and the Al-Rajhi multiple growth fund were unable to outperform the market index through negative performance during the study period.

IV- Conclusion:

This study helped in analyzing the effect of the fund's life on the performance of investment funds by trying to establish the relationship between the dependent variable performance of investment funds, which was determined by average annual returns, risk of fluctuation in annual returns and the ability of investment funds to outperform the market index, and the independent variable (age fund), and 12 funds were selected from the funds licensed by the Arab Saudi Capital Market authority during the period 2010-2017, divide into 3 equal age groups 4 funds for each age group (4short-life funds, 4medium-life and 4long-life funds) and through the analysis statistical and deductive we came to the following results:

- The studied investment funds were able to achieve positive average annual returns during the period 2010-2017, most years were characterized by positive annual returns, while some years had negative performance, but the performance of the funds was positive during the total period.

- The results of comparative analysis revealed that most of the investment funds (10) outperformed the market index during the period 2010-2017, as their performance was positive compared to the performance of the index. This result reflects the results of studies (Baba, Nawaz, 2013) (Jaksic, 2015). (Rakibul, Arif, 2015).

-Despite the variation in annual returns fluctuation levels among the studied investment funds according to the age variable, as long, medium and short investment funds out performed, i.e. age is inversely proportional to the risk of dispersion of annual returns, but the performance in general was good ;

- This study revealed an inverse relationship between the independent variable (the age of the fund) and the dependent variable (the performance of investment funds), as the relationship between age and all the selected performance determinants appeared. This result corresponds to the results of the studies (See and Jusoh, 2012), (Filip, 2018) , (Moore, 2016). After the conclusions reached, we suggest some recommendations.

-The importance of benefiting from previous experiences (given the age of the fund) by analyzing the development of performance measurement determinants such as annual returns, the degree of dispersion and working to surpass the performance of the market index,

-Paying attention to the state of dispersion of annual returns for short-lived investment funds, given that there is a high degree of volatility compared to other fund categories;

-Analyzing the movement of the indicative market index by determining its status (Bullish, steady or descending) to predict the performance of investment funds in the future;

-Conducting developmental and comparative analysis of various performance indicators with the development of the fund's life, in order to correct errors and deviations in the strategic plans of the fund.

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- Appendices:

Table (1): Determinants of the dependent variable

Outperforming the market index during the period 2010-2017	The risk of annual revenue fluctuation during the period 2010-2017	Average annual returns during the period 2010-2017	funds
4.175	17.86452	7.8875	Riyadh for shares of companies XM and M
1.3838	11.11927	8.3175	The first Arab Saudi stocks
1.9988	17.45602	4.0413	Riyadh for ages
-0.2	17.74278	8.1938	Al-Ahly for medium and small companies
6.1525	16.32529	12.4	Feasibility for Arab Saudi stocks
3.9675	13.45749	6.6763	Saeb Arab Saudi equity
1.405	13.02976	2.2888	Riyadh blue chip
-0.1275	7.6928	4.3925	Al Rajhi for vmulti-asset growth
2.2413	13.05152	4.615	Riyadh Saudi equity
0.1263	0.72496	0.853	Al Ahly to trade in riyals
0.6075	0.67479	1.235	Al Mubarak Rial trading
0.595	12.48262	7.0388	Al Rajhi Arab Saudi equity

Table (02): Independent variable

age	funds
9	Riyadh for shares of companies XM and M
9	The first Arab Saudi stocks
9	Riyadh for ages
10	Al-Ahly for medium and small companies
11	Feasibility for Arab Saudi stocks
14	Saeb Arab Saudi equity
18	Riyadh blue chip
20	Al Rajhi for vmulti-asset growth
21	Riyadh Saudi equity
22	Al Ahly to trade in riyals
24	Al Mubarak Rial trading
26	Al Rajhi Arab Saudi equity

Table (3): of the regression model results

Recapitulative models

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
1	.713a	.508	.459	2.44400

Valeurs prédites : (constantes), age

Source: Prepared by researchers using spss

Table (4): ANOVA

Modèle	Somme des carrés	ddl	Moyenne des carrés	F	Sig.
1 Régression	61.696	1	61.696	10.329	.009a
Résidu	59.732	10	5.973		
Total	121.427	11			

Recapitulative models

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
1	.713a	.508	.459	2.44400

a. Valeurs prédites : (constantes), age

b. Variable dépendante : MFP

Source: Prepared by researchers using spss

Table (5): Coefficients

Modèle	Coefficients non standardisés		Coefficients standardisés	t	Sig.
	A	Erreur standard	Bêta		
1 (Constante)	12.351	1.970		6.271	.000
age	-.367	.114	-.713	-3.214	.009

a. Variable dependant : MFP

Source: Prepared by researchers using spss

Table (6):: Comparative Analysis of Average annual returns arrangement

Arrangement	Average Annual returns	Funds category
1	7.110025	Short-lived mutual funds
2	6.4394	Middle-aged investment funds
3	3.43545	Long-life investment funds

Source: Prepared by researchers using smartplsv3

Table (7): Comparative Analysis of average annual revenue volatility

Arrangement	Annual Revenue fluctuation	Funds category
1	7.110025	Short-lived mutual funds
2	6.4394	Middle-aged investment funds
3	3.43545	Long-life investment funds

Source: Prepared by researchers using smartplsv3

Table (8): Comparative analysis of average market

Arrangement	Average outperformance on the index market	Funds category
1	7.110025	Short-lived mutual funds
2	6.4394	Middle-aged investment funds
3	3.43545	Long-life investment funds

Source: Prepared by researchers using smartplsv3

Table (9): Results of the first hypothesis test

P- Value	T-Value	STDEV	B	Trak
0.003	3.023	0.195	-0.588	age average ← annual returns

Source: Prepared by researchers using smartplsv3

Table(10) : Results of the second hypothesis test

P- Value	T-Value	STDEV	B	Trak
0.003	3.023	0.195	-0.588	age ← risk fluctuation of annual returns

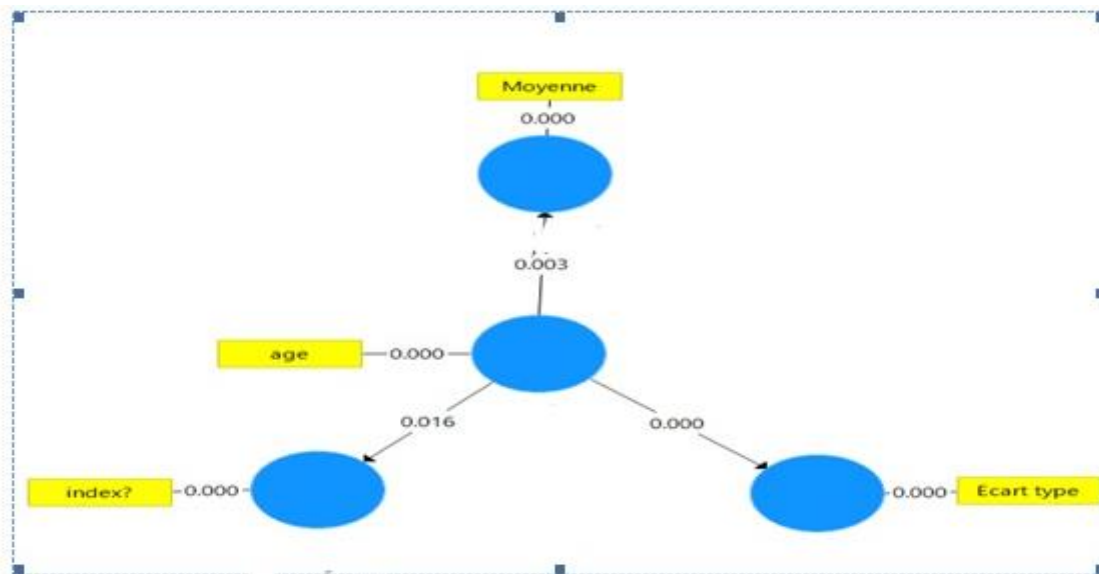
Source : Prepared by researchers using smartpls3

Table (11): Results of the third hypothesis test

P- Value	T-Value	STDEV	B	Track
0.016	2.428	0.197	-0.478	old ← market benchmark

Source: Prepared by researchers using smartpls3

Fig 01 : Study form



Source: Prepared by researchers using smartpls3

Fig 02



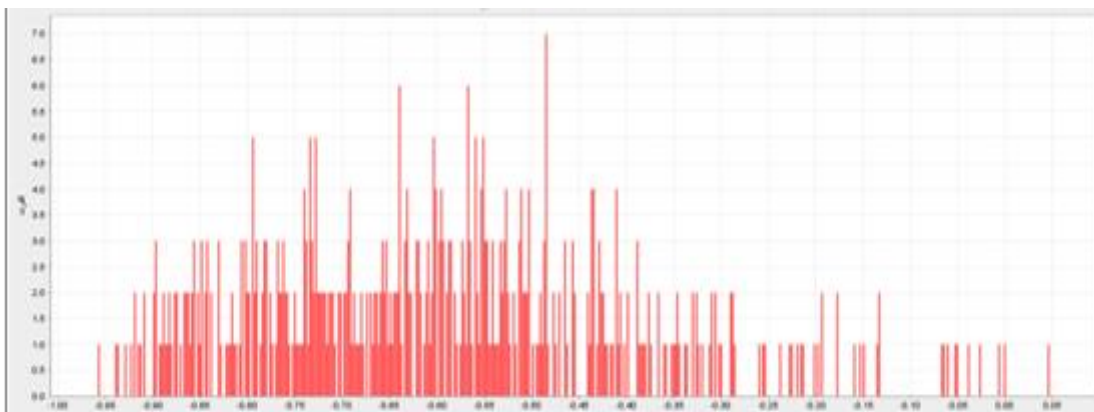
Source: Prepared by researchers using smartpls3

Fig 03



Source: Prepared by researchers using smartplsv3

Fig 04



Source: Prepared by researchers using smartplsv3

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