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Financial performance analysis of innovative and non-innovative organizations

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***Abstract*---**This study employs discriminant analysis to compare the financial performance of innovative and non-innovative organizations within the pharmaceutical sector in the Arab Maghreb. The analysis of two distinct samples pharmaceutical firms (innovative) and semi-pharmaceutical firms (non-innovative) revealed statistically significant superior financial performance among the innovative organizations. This superiority is attributed to significant differences in the following financial metrics: Cash Ratio (Dispon/DC), Fixed Asset Turnover (CA/AI), Current Asset Turnover (CA/AC), Return on Assets (ROA), Return on Sales (ROS), Permanent Financing Ratio (CS/AI), Equity Financing Ratio (CP/AI), Working Capital (FR), Working Capital Requirement (BFR), Treasury (T).

***Keywords*---**Liquidity Ratios, Activity Ratios, Profitability Ratios, Financing Ratios, Financial Balances, Innovation.

Introduction

The establishment, development, and sustained survival of organizations are fundamental to building a robust economy. In the context of global transformations, organizations are crucial for achieving development and societal welfare. To succeed, they must not only respond to current customers but also proactively develop new ideas, products, processes, or services to meet future demand effectively within a dynamic and uncertain environment.

Research substantiates the critical role of innovation. Studies by Hamel & Skarzynski (2001), Schepers, Schnell, & Vroom (1999), and Weerawardena, O'Cass, & Julian (2006) have demonstrated that innovations profoundly influence an organization's existence, growth, and value-creating activities. Reinmoeller & van Baardwijk (2005) further concluded that superior performance is an inevitable outcome of innovation, and also imperative for innovation is clear to build a sustainable competitive advantage, enhance material returns, and improve financial performance, there by ensuring survival amidst intensifying

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competition organizations must continuously refine their offerings and operations. This need is amplified as businesses transition from stable to relatively unstable environments driven by market liberalization and globalization. Confronted with evolving trends, shifting market conditions, new technologies, and changing customer demands, organizations must continually renew and reinvent themselves to ensure long-term survival and success.

Furthermore, process innovations enhance operational efficiency by streamlining workflows, reducing costs, and minimizing waste, thereby improving profit margins. In a dynamic business environment characterized by rapid technological change and shifting consumer preferences, the ability to innovate is not merely an advantage but a necessity for long-term viability. It enables organizations to anticipate disruptions, adapt to challenges, and capitalize on emerging opportunities. Reinmoeller & van Baardwijk (2005) emphasized this in their study, which found a positive relationship between innovation and financial performance. The financial performance metrics included several indicators and financial ratios, such as Return on Investment (ROI), Return on Assets (ROA), profitability, external and equity financing ratios, as well as fixed and current asset turnover rates, among others. Given that innovation is a fundamental element for organizations to achieve superior financial performance, we raise the following question:

Are there differences in financial performance between innovative and non-innovative organizations?

-To address the research question. The following two hypotheses were formulated:
Hypothesis 0: There are no statistically significant differences in financial performance between innovative and non-innovative organizations.
Hypothesis 1: There are statistically significant differences in financial performance between innovative and non-innovative organizations.

Research Objectives:
This study aims to achieve the following specific objectives:

- To employ discriminant analysis to conduct a comparative assessment of the financial performance of innovative versus non-innovative organizations within the pharmaceutical sector.
- To determine the existence of statistically significant differences in financial performance between the two groups.
- To identify the specific financial ratios and metrics (such as liquidity, activity, profitability, and financing ratios) that contribute most significantly to discriminating between innovative and non-innovative organizations.

REVIEW OF LITERATURE

- Innovation:

The term "innovation" has a very broad meaning. It has a long history in research (Samuel T, 2011, p. 265), and its practice is as old as human activity (Cruickshank, 2010, p. 21). Although numerous definitions exist, there is no global consensus on its precise meaning. The following presents some of the most important definitions addressing this concept.

From a general and lexical perspective, The Oxford Dictionary defines innovation as "the introduction of new ideas, methods, or procedures." Similarly, Dictionary.com notes its literal meaning is "something new or different" (Rahman., 2012, p. 38). Etymologically, as per Lewis & Short the term is derived from the Latin word 'Novus', meaning new. (Zuraik, 2017, p. 10)

In academic and organizational literature, definitions become more specific. Thompson (1965) defines it as the acceptance and implementation of new ideas, products, processes, or services. (Masood Hassan, 2013, p. 244) From an organizational standpoint, Becker and Whisler (1967) describe innovation as the early use of a new idea by an organization (DAFT, 1978, p. 197). Rosner (1968) views it as a response to environmental change or a means of effecting change within an organization. This involves integrating technical or administrative changes to enhance goal achievement. (Evan, 1984, p. 392)

Further refining this, Zaltman, Duncan, and Holbek (1973) define innovation as the implementation of an idea, generated internally or borrowed externally, related to a product, device, system, process, policy, program, or service at the time of its adoption (Fariborz Damanpour and William M. Evan, 1984, p. 393). Similarly, Downs and Mohr (1979) characterize it as the introduction of something new that involves risk and changes organizational behavior in a significant way (Elkin, (Aug., 1983), p. 370). Damanpour (1991, p. 557) consolidates this view, stating organizational innovation is "the implementation of an idea generated internally or externally, whether related to a product, device, system, process, policy, program, or service that was new to the organization at the time of adoption." (Damanpour, 1991, p. 557)

Consequently, innovation is a critical factor for organizational success. It represents the ability to generate knowledge and ideas continuously (Lale Gumusluoglu, (2009), p. 464). The innovation process is complex and multidimensional, involving the interaction of many factors to bring forth new products, processes, and systems (POPA, 2010, p. 151). Therefore, innovation and organizational learning are mutually reinforcing, as learning stimulates innovation. (POPA, 2010, p. 152)

- **Technical and Administrative Innovations:**

In terms of classification, Damanpour and Evan distinguish between two primary types of innovation: technical and administrative.

1- **Technical innovations**:

Pertain directly to an organization's technical system and its core business activities. It is important to note that these are distinct from purely technological innovations, as they are not solely the result of applying new technology (DAFT, 1978, p. 198). Rather, a technical innovation involves the implementation of an idea for a new product, service, or process element (Jaskyte, 2011, p. 78). They are inherently market-focused and customer-driven. For the purpose of this study, technical innovation is defined as the implementation of a new service, program, or product that represents a change to the prevailing organizational practice. (DUBOULOZ, 2014, p. 223)

2- Administrative innovations:

In contrast, occur within an organization's social system, the network of relationships between individuals who interact to achieve organizational goals. According to Evan (1966), these innovations involve new methods for recruiting personnel, allocating resources, and structuring tasks, authority, and rewards. They encompass changes in organizational structure and the management of personnel. (Bagher Asgarnezhad Nouri, 2016, p. 675) Damanpour, Szabat, and Evan (1989) further concluded that administrative innovations are introduced into the administrative framework, typically in a top-down manner. They relate to organizational structure, administrative systems, and human resources, encompassing the rules, procedures, and structures governing communication and interaction among employees. These innovations are more directly linked to the management of the organization itself than to its core business activities. (Jaskyte, 2011, p. 79)

The dimensions of these innovation types have been further elaborated. According to Remon, the key dimensions of technical innovation include products and processes (where changes in processes lead to new or enhanced offerings); product development (leveraging skilled teams to generate ideas); research and development (R&D) (involving collaboration and shared financial risk); intellectual property (such as patents enabling original development): and new licenses and partnerships (providing competitive benefits). (remon, 2010, pp. 129-136)

Concurrently, the dimensions of administrative innovation, as outlined by Vaccaro, encompass workforce reshaping (aligning human resources with strategic goals); knowledge absorption capacity (built through external relationships and training); work approaches and techniques (where leadership adapts structures to foster innovation); and organizational mandates (involving negotiated returns with assessments of risk, deadlines, and costs). (Ignacio G. Vaccaro, January 2012, p. 28)

- Financial Performance

Defining financial performance with precision is inherently difficult, as the concept has been articulated in diverse ways according to different scholarly perspectives. Consequently, numerous definitions exist. Hoskisson et al., for example, define it as the assessment of a firm's fulfillment of its economic goals, a view that led early researchers influenced by industrial organization economics to rely primarily on accounting-based profitability ratios such as Return on Assets (ROA), Return on Equity (ROE), and Return on Sales (ROS) for its measurement (Gentry, (2010), p. 516). Similarly, Daft frames it as the organization's ability to achieve its economic goals and ensure viability, typically measured by indicators like profitability, return on investment (ROI), and ROA, which reflect the efficient use of resources to generate returns for stakeholders. (Ramadhan, 2024, p. 5206) An alternative definition characterizes it as an entity's ability to cover its operational and financial costs, evaluated through core financial statements the balance sheet, cash flow statement, and income statement with key indicators being ROE, profitability, revenue growth, ROA, and cash flow (El Kharti, (2014), p. 30). Broadly, it can be understood as an organization's financial health over a specific period, involving fund management and measured through a suite of

indicators including capital adequacy, liquidity, leverage, solvency, and profitability, ultimately reflecting the entity's efficacy in managing its resources (Horne, (2001), p. 432). This assessment is fundamentally based on financial statements, which are prepared periodically annually, semi-annually, or quarterly and can be tailored into different versions for specific stakeholders such as managers, tax authorities, shareholders, or lenders. (Ayeni-Agbaje, 2024, p. 26) The analysis of financial health often centers on profitability; an organization is considered healthy if it generates a surplus where operating revenues exceed operating costs. Conversely, a scenario where costs surpass revenues indicates a deficit, signaling potential loss, operational inefficiency, or even bankruptcy risk. (Altman, 1968, p. 590)

- Evaluating Financial Performance Using Financial Ratios:

This study relies on financial ratios to measure performance, as they are among the most powerful tools in financial and managerial analysis. A ratio expresses the quantitative relationship between two items. They clarify connections within financial statements. While hundreds can be calculated, experts select those that provide the most relevant information.

Given the diverse needs of organizations and stakeholders, financial ratios are commonly classified into five groups: liquidity ratios, financing ratios, profitability ratios, activity ratios, and market ratios (Fatihudin, (2018), pp. 553-554)

1- Liquidity Ratios:

These ratios evaluate management's ability to meet the organization's short-term obligations as they come due, assessing the availability of necessary funds. Common measures include:

The Current Ratio (Ac / Dc) is the most widely used liquidity ratio and shows an entity's ability to cover current liabilities with current assets. Secondly, the Quick Ratio (Ac - Stock / Dc) a more conservative measure, tests the adequacy of cash and near-cash resources to meet short-term obligations without relying on inventory sales. Finally, the Cash Ratio (Dispon / Dc) represents the most stringent liquidity measure, precisely indicating the ability to meet short-term obligations using only the liquid assets. (Chabotar, (1989), pp. 193-194)

2- Profitability Ratios:

Profitability ratios are comprehensive metrics that synthesize all facets of financial analysis by gauging an organization’s efficiency in achieving operational targets and managing costs. They assess overall management effectiveness through the evaluation of profits derived from sales and investments. Higher ratio values reflect a stronger organizational capacity to generate profit (Limbong, 2021, p. 79). Three key profitability ratios are commonly analyzed. Firstly, return on equity (ROE) focuses on the company's overall performance by aggregating all financial activities to measure returns for shareholders. Secondly, return on assets (ROA) evaluates management's effectiveness in utilizing all assets to generate profit, indicating the return on the total investment. Finally, return on sales (ROS) shows the profit margin derived specifically from core operations, reflecting the efficiency of production and marketing activities.

3- Activity Ratios:

Measure the efficiency and effectiveness of management in utilizing assets and resources, typically by relating sales levels to different asset categories. Key indicators include Current asset turnover (CA / AC), which reflects the efficiency in using current assets to generate sales, fixed asset turnover (CA / AI), which

measures the efficiency in using fixed assets, and total asset turnover (CA / TA), a comprehensive measure of how effectively all assets are used to generate sales. (Chen, 1981, pp. 55-56)

4- Financing Ratios:

These ratios assess an organization's reliance on external debt compared to owner's equity to finance its operations, thereby aiding in the evaluation of risks associated with its capital structure (Ross, 2019, p. 57). Key indicators include firstly, the debt ratio (D/TA) which measures the proportion of total assets financed by debt, indicating greater reliance on borrowing and higher financial risk when elevated. Subsequently, the permanent financing ratio (CS/AI), expressing the organization's dependence on long-term capital to fund its total assets. Finally, the equity financing ratio (CP/AI) which reflects the share of assets financed by equity capital, thereby signaling the firm's financial self-sufficiency and autonomy, and serving as a key metric for evaluating financing structure with its appropriate level varying according to the firm's activities, policies, and industry norms. (Ross S. A., (2019), p. 61)

5- Financial Balances:

Financial balances represent the alignment between the maturity of financial resources and their uses in the balance sheet. This analysis yields three key. Firstly, the working capital (FR), which serves as the fundamental indicator of liquidity by showing the ability to cover short-term obligations with short-term resources. Moreover, the working capital requirement (BFR), which arises from operational cycles (such as inventories and receivables) and the resources they generate (like payables), representing the net investment needed in operating assets. Lastly, net cash/treasury (T), which reflects the immediate liquidity available after covering these operational needs, indicating the organization's capacity to manage daily operations without cash flow disruptions. (PETERSON, 2003, pp. 764-765)

- **Analysis of the financial performance of innovative and non-innovative organizations:**

To verify the existence of differences and variations in the financial ratios calculated from the budgets and financial statements obtained for the last three years of the innovative and non-innovative organizations mentioned in the table below:

Table (01): Innovative and non-innovative organizations

Number	Innovative Organization	Non-Innovative Organization
01	saidal	Eleis farm
02	Biopharm spa	socothyd
03	Frater-Razes	Hypro
04	Geoplam	Miss flowers
05	GEO pharm	HYGIFNOVA
06	Sanofi Aventis	sopalux
07	Genericlab sarl	star brandiz
08	Tabuk pharmaceuticals	vénus spico
09	Astellas	Basiliacos

Number	Innovative Organization	Non-Innovative Organization
10	Pharmalliance	Naqlin
11	Sci pharma	BIO EXTRA
12	Magpharm	belnace
13	Propharmal Spa	Liza pharm
14	GDMH pharma	Sorena lab
15	Leo pharma algerie	Laboratoire dermo cosmétique
16	AstraZeneca Al Djazair	Septika
17	Groupe HYDRAPHARM	Hygienix
18	Versalya pharma	Faderico

Source: Prepared by the researchers.

- **Multivariate Analysis of Variance:**

The discriminant factor analysis, method was adopted to identify the discriminating financial ratios that allow determining whether innovative organizations perform better financially than non-innovative organizations or vice versa.

Table (02): Multivariate Analysis of Variance of the Differences in Financial Performance between Innovative and Non-Innovative Organizations

Ratios	Innovative Organization		Non-Innovative Organization		Lambda de wilks	Fisher's Coefficient	p-value
	standard deviation	Arithmetic Mean	standard deviation	Arithmetic Mean			
Ac / Dc	,06552	,1960	,04458	,1890	,996	,078	,783
Ac-Stock/Dc	,35227	,2622	,01703	,1070	,903	1,937	,181
Dispon/Dc	,5372	,2130	,26362	,13166	,598	12,105	,003
CA/TA	,48128	,4410	,02726	,4860	,995	,087	,771
CA/AI	,7770	,48504	,15100	,13294	,461	21,067	,000
CA/AC	3,6480	,91199	2,3470	,86950	,628	10,666	,004
R.C.P	,19566	,4480	,51387	-,0386	,697	7,831	,012
R.O.A	,06459	,0024	,04725	,1010	,543	15,179	,001
R.O.S	,12187	,0306	,08685	,2610	,432	23,703	,000
D/TA	,11088	,7750	,54582	,7560	,999	,012	,915
CS/AI	,6547	,3820	,30752	,19401	,516	16,901	,001
CP/AI	,74230	,3570	,25737	,1923	,556	14,360	,001
FR	17280950,27695	-47584018,3230	27251538,56128	-18906661,9570	,695	7,898	,012
BFR	9114981,72235	-80372190,9500	10287209,98966	-69860414,1700	,755	5,849	,026
T	32839824,48333	61465529,0300	10257765,52535	22276395,8300	,581	12,975	,002

Source: Prepared by the researchers based on SPSS 20 outputs.

It can be observed from the table, above that there are substantial, statistically significant differences between the financial performance of innovative and non-innovative organizations. attributable to the following financial ratios:(Quick Liquidity Ratio, Fixed Asset Turnover Ratio, Current Asset Turnover Ratio, Return on Assets (ROA), Return on Sales (ROS), Permanent Financing Ratio, Equity Financing Ratio, Working Capital, Working Capital Requirement, Treasury).

Upon reviewing the arithmetic means and standard deviation, it is noted that the higher means and standard deviation were for the sample of innovative organizations across these same ratios, whereas the lower means and standard deviation were for the sample of non-innovative organizations.
The elevated scores in these tests indicate the superior financial performance of innovative organizations. This strong financial performance is attributed to the impact of innovation, which enables organizations to offer a diverse range of different products and services. This diversity allows them to increase productivity on one hand and enhance the organization's profitability and returns on the other.

Moreover, the increased profitability of the innovative organization reflects the availability of ready cash liquidity to finance its various activities.
Consequently, innovative organizations achieve balanced growth financed by their internal resources. This is based on their ability to consistently raise the level of financial returns, which is evident from the high balance of cash and cash equivalents they hold. This allows them to reduce their Reliance on borrowing and improves their degree of financial independence.

- **Extraction of Discriminant Variables:**

To identify the nature and type of the variables, we employed the stepwise method, which is one of the approaches used to measure the variables' ability to discriminate after their extraction and identification based on the largest Fisher's statistic value. Relying on the results mentioned above, we note that the program extracted 11 discriminant variables, which are illustrated and organized in Tables 03 and 04 below:

Table (03) : Discriminant Variables

Ratios	Lambda de Wilks	Fisher's Coefficient	p-value
Dispon/Dc	,598	12,105	,003
CA/AI	,461	21,067	,000
CA/AC	,628	10,666	,004
RCP	,697	7,831	,012
ROA	,543	15,179	,001
ROS	,432	23,703	,000
CS/AI	,516	16,901	,001
CP/AI	,556	14,360	,001
FR	,695	7,898	,012
BFR	,755	5,849	,026
T	,581	12,975	,002

Source: Prepared by the researchers based on SPSS 20 outputs.

Based on the largest value of Fisher's statistic, the 11 obtained discriminant variables are ranked as illustrated in the table below.

Table (4): Stepwise Method Statistics

Ratios	Lambda de Wilks	Fisher's Coefficient	p-value
ROS	,432	23,703	,000
CA/AI	,461	21,067	,000
CS/AI	,516	16,901	,001
ROA	,543	15,179	,001
CP/AI	,556	14,360	,001
T	,581	12,975	,002
Dispon/Dc	,598	12,105	,003
CA/AC	,628	10,666	,004
FR	,695	7,898	,012
RCP	,697	7,831	,012
BFR	,755	5,849	,026

Source: Prepared by the researchers based on SPSS 20 outputs

- **Economic and Financial Interpretation of the Obtained Results:**

1- Liquidity Ratios:

- **Current Ratio (Ac/Dc):**

To verify the existence of differences and variance in this ratio among the studied organizations, we calculated the coefficient of variation for each ratio. Its value reached 3.34 for innovative organizations and 0.23 for non-innovative organizations, indicating that innovative organizations possess greater liquidity to cover their short-term obligations compared to their non-innovative counterparts.

However, as shown in Table 02 above, the p-value was 0.78, meaning the ratio is not statistically significant. This led us to exclude it from the process of comparing the financial performance of innovative and non-innovative organizations.

- **The Quick Liquidity Ratio (Ac-Stock/Dc):**

The coefficient of variation reached 1.34 for innovative organizations and 0.15 for non-innovative organizations. Based on this rate, innovative organizations are better at providing quick liquidity to cover obligations than non-innovative organizations. However, we rejected this ratio in the comparison process because the p-value reached 0.18, meaning it is not statistically significant.

- **The Ready Liquidity Ratio (Dispon/Dc):**

The coefficient of variation reached 2.52 for innovative organizations and 2.00 for non-innovative organizations. From the perspective of this ratio, innovative organizations have a better ability to repay their short-term debts compared to non-innovative organizations. As mentioned above, the calculated ratio is statistically significant because the p-value equals 0.003, and therefore it was taken into consideration for comparing the organizations.

2- Activity Ratios:

- Total Asset Turnover Ratio (CA/TA):

The coefficient of variation was 1.09 for innovative organizations compared to 0.05 for non-innovative organizations. If this indicates anything, it is that the ability of an innovative organization to use its assets to generate the highest possible sales during its operating period is better than that of non-innovative organizations. However, the p-value reached 0.77, meaning the ratio is not statistically acceptable and therefore cannot be taken into consideration in the comparison.

- Fixed Asset Turnover Ratio (CA/AI):

The coefficient of variation reached a value of 1.60 for innovative organizations compared to 1.13 for non-innovative organizations. This indicates that innovative organizations are more efficient in managing their assets than non-innovative organizations. This ratio is statistically acceptable, as the p-value reached 0.000, and was therefore taken into consideration in the comparison.

- Current Assets Turnover Ratio (CA/AC):

The coefficient of variation reached 4.00 for innovative organizations and 2.69 for non-innovative organizations. This means that innovative organizations have greater efficiency in managing their resources compared to non-innovative organizations. Given that the ratio is statistically significant with a p-value of 0.004, we relied on it as a unit for comparing the performance of the organizations in the study.

3- Profitability Ratios:

- **Return on Equity (ROE) Ratio:**

The calculation of the coefficient of variation confirmed the superiority of innovative organizations from the perspective of this ratio, as it reflects their financial capability relying on self-financing. Its value reached 0.43 for innovative organizations compared to -13.31 for non-innovative organizations, indicating the inability of non-innovative organizations to self-finance their activities. This ratio is acceptable for comparison, as its p-value reached 0.012, meaning it is statistically significant, as shown in the table above.

- **Return on Investment (ROA) Ratio:**

The value of the coefficient of variation demonstrated the efficiency of innovative organizations in using their funds for successful investments, with a value of 26.91 compared to 0.46 for non-innovative organizations. The p-value for this ratio was 0.001. Hence, it was accepted because it is statistically significant.

- Return on Sales (ROS) Ratio:

The value of the coefficient of variation confirms that innovative organizations achieve a higher profit margin than non-innovative organizations, with a value of 3.98 for innovative organizations compared to 0.33 for non-innovative organizations. This ratio is statistically acceptable, as the p-value reached 0.000, was taken into consideration in the comparison.

4- Financing Ratios:

- **External Financing Ratio (D/TA):**

This metric focuses on borrowing ratios and determines the organization's ability to obtain additional funds to support its projects. The coefficient of variation was 0.72 for non-innovative organizations and 0.14 for innovative organizations. This reflects that non-innovative organizations are able to obtain additional liquidity to

support their projects, as a lower ratio is better for the organization. The higher ratio for non-innovative organizations indicates that the organization has a large debt burden, which reduces the safety margin for borrowers, compared to innovative organizations that provide a relative safety margin for borrowers. However, we rejected this ratio, as it is not statistically significant, with a p-value of 0.91.

- **Long-term Financing Ratio (CS/AI):**

Based on the coefficient of variation, which reached a value of 1.71 for innovative organizations compared to 1.58 for non-innovative organizations, it reflects that innovative organizations have fixed assets that are relatively financed by long-term funds. This ratio is statistically significant, as shown in the table above, with a p-value of 0.001, which led us to consider it in the comparison.

- **Self-Financing Ratio (CP/AI)**:

This ratio reflects the organization's self-financing capacity. The higher value of the coefficient of variation was 2.07 for innovative organizations compared to 1.33 for non-innovative organizations. This indicates that innovative organizations are better in terms of self-financing, meaning they have the ability to cover their fixed assets with their own funds. This ratio is acceptable as it is statistically significant, with a p-value of 0.001.

5- Financial Balances:

- **Working Capital (FR):**

The organizations in the study achieved negative working capital, meaning these organizations are unable to finance all their investments using their permanent financial resources. The calculation of the coefficient of variation demonstrates the inability of both innovative and non-innovative organizations to finance permanent funds with their fixed assets, with a value of -1.44 for non-innovative organizations compared to -0.36 for innovative organizations. The p-value for statistical significance was 0.01. Therefore, it was accepted.

- **Working Capital Requirement (BFR):**

Some of the organizations in the study achieved a negative working capital requirement, indicating an uncovered imbalance during the operating cycle due to a decrease in the stable uses of these organizations' permanent resources. However, the coefficient of variation shows a greater ability for innovative organizations to control their debts and negotiate with their customers, with a value of 0.11 compared to -0.14 for non-innovative organizations. This ratio was taken into consideration in the comparison process. Because it is statistically significant, as noted in the table above, with a p-value of 0.026.

Treasury (T): The organizations in the study achieved a positive treasury, indicating a sound financial condition. However, the coefficient of variation for innovative organizations reached a value of 5.34, which is higher compared to non-innovative organizations, which recorded a value of 0.46. This means that innovative organizations are capable of covering their working capital requirements due to a larger financing surplus or potential liquidity immobilization compared to non-innovative organizations. The p-value was 0.002, indicating that the ratio is statistically significant, allowing us to rely on it for the comparison process.

- **The obtained results can be summarized in the table below**:

Table (05): Study Results

Ratios	Innovative Organization	Non-Innovative Organization
Dispon / Dc	✓	_
CA/AC	✓	_
CA/AI	✓	_
R.C.P	✓	_
R .O.A	✓	_
R.O.S	✓	_
CS /AI	✓	_
CP/AI	✓	_
FR	_	✓
BFR	✓	_
T	_	✓
Total	09	02

Source: Prepared by the researchers based on SPSS 20 outputs.

Based on the table above, we observed that innovative organizations perform better financially than non-innovative organizations. This finding aligns with the results obtained from numerous studies in this field (Damanpour and Evan (1984); Reinmüller & van Bardwijk (2005); Calanton et al. (2002); Ushuaia Chakkit, (2008); Zahra, Ireland & Hitt (2000); Wheelwright and Clark, (1992); Bueno and Ordonnez, (2004)). We derived this conclusion from the study variables that were statistically significant.

The greater liquidity available to innovative organizations can be attributed to their higher equity investments, the increasing number of shareholders in the social capital of these organizations, and the growth in sales volume of both innovative products and services. This has positively influenced their ability to rely on self-financing or private funding, as innovative organizations strive to avoid borrowing from banks or financial markets, seeking instead autonomy. Furthermore, innovation enables an organization to increase its market share, enhance production efficiency, and boost financial revenues, all of which positively reflect on its financial performance.

We also noted the ability of these innovative organizations to efficiently manage their assets and cash flows. This is attributed to the expertise that owners of innovative organizations possess in their sector of activity, as well as their tolerance for risk. This has equipped them with the capacity to enhance their knowledge in making critical decisions during pivotal moments, in addition to the ability to identify significant new opportunities and solve problems by adopting appropriate strategies.

Since growth is a primary goal for innovative organizations, alongside survival and sustainability, substantial revenues and financial surpluses have been

recorded. These open up new horizons for further investments and innovations, which inevitably lead to enhanced financial performance for these innovative organizations compared to their non-innovative counterparts.

Conclusion

Based on the applied study of innovative and non-innovative organizations in the pharmaceutical and semi-pharmaceutical industry sector, the following results were obtained:
The pharmaceutical industry sector is characterized by advantages: This industry relies on research and development to confront new pathological developments, which requires innovation and precise scientific research. Research and development activities result in innovations that are protected by organizations through patents, which grant the owning organizations the right of commercial exploitation for a period of no less than twenty (20) years. This generates enormous profits and, consequently, increases and enhances the financial performance of these organizations.

To address the study's problem:
Are there differences in financial performance between innovative and non-innovative organizations?
The following hypotheses were tested using discriminant analysis:
Hypothesis 0: There are no statistically significant differences in financial performance between innovative and non-innovative organizations.
Hypothesis 1: There are statistically significant differences in financial performance between innovative and non-innovative organizations.

The study's results concluded the existence of substantial, statistically significant differences between the financial performance of innovative and non-innovative organizations. By reviewing the arithmetic means and standard deviation, it is noted that the higher means and deviation were for the sample of innovative organizations, while the lower means and deviation were for the sample of non-innovative organizations. The high scores in these tests indicate the superior financial performance of innovative organizations. This strong financial performance is attributed to the impact of innovation, which enables organizations to offer a variety of different products and services, allowing them to increase productivity on one hand and enhance organizational yield and profitability on the other. The increased profitability of innovative organizations also reflects the availability of ready cash liquidity to finance the organization's various activities.

Innovative organizations perform better financially than non-innovative organizations. We concluded this result from the study variables that were statistically significant. This can be attributed to innovative organizations having greater liquidity due to higher equity investments and an increasing number of shareholders in the social capital of these organizations, in addition to increased sales volume of both innovative products and services. This positively reflected on the latter is ability for self-financing or equity financing, as innovative organizations seek to avoid borrowing from banks or financial markets; they strive for independence. Since innovation enables the organization to increase its

market share, improve production efficiency, and increase financial revenues, it positively reflects on its financial performance.

We also recorded the ability of these innovative organizations to manage their assets and cash flows effectively. This is due to the expertise that owners of innovative organizations possess in their field of activity, as well as the presence of a risk-taking element, which has given them the ability to develop their knowledge in making important decisions at critical times. Additionally, they have the ability to identify significant new opportunities and solve problems by adopting appropriate strategies. Given that growth is a primary goal for innovative organizations, alongside survival and continuity, significant revenues and financial surpluses were recorded, opening other horizons for new investments and innovations that inevitably lead to increased financial performance for these innovative organizations compared to their non-innovative counterparts.

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