The Effect of Digitalization on Improving the Timeliness of Financial Reporting: Evidence from Egyptian Listed Companies

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Faculty of Commerce Scientific Journal

Faculty of Commerce, Assiut University

Vol. 79, December 2023

APA Citation:

Mustafa, Sameh Abdelsalam. (2023). The Effect of Digitalization on Improving the Timeliness of Financial Reporting: Evidence from Egyptian Listed Companies. ***Faculty of Commerce Scientific Journal***, Faculty of Commerce, Assiut University, 79, 315-343.

Website: https://sjcf.journals.ekb.eg/

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Abstract:

Purpose: The current wave of digitalization (SMACIT), from Online Social Networks (OSNs), Mobile Telecommunication, Analytics and Cloud Computing to the Internet of Things, has led to a rethink of how companies use technology and new business models to improve the quality of accounting information. This study empirically investigates the effect of the digitalization on improving the timeliness of reporting.

Design/methodology/approach: The study uses a sample of 189 companies listed on the Egyptian stock Exchange to assess the effect of key enablers of digitalization on the timeliness of financial reporting. Simple and multiple regression analysis are used to test hypotheses. Three of the new digital solutions, namely social networks, websites, and digital platforms, are used as independent variables in this study.

Findings: The results revealed that the listed Egyptian companies take an average of 40 to 85 days to release their financial reports. The banking, and industrial goods, services and automobiles sectors performed better compared to other sectors, and the service sectors performed better than the industrial sectors with regard to the timing of financial reports. The results of the regression analysis indicate that there is a significant negative relationship between the timing of financial reports, the use of online social networks, websites, and digital platforms by listed companies. The study concluded that increased digitalization improves the timeliness of financial reporting, which meaning that the greater the digitalization, the shorter the financial reporting time.

Research limitations: This study has some limitations. First, the digitalization metrics used in this study are preliminary and need to be developed. Second, the digitalization metrics do not taken into account the age of the company, experience, and the effectiveness and manner in which digital technologies are used.

Originality/value: This research provides more insights to understand the effect of the new digital solutions on the timing of financial reporting. The results presented in this study are expected to rethink the effectiveness of the governance mechanism in light of digital transformation practices in Egypt.

Keywords: Digitalization, New digital solutions, Online Social Networks, Websites, Digital platforms.

Faculty of Commerce Scientific Journal, 79, December 2023

أثر الرقمنة على تحسين توقيت التقارير المالية: دليل من الشركات المصرية المقيدة في سوق الأوراق المالية

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المستخلص العربي:

يعد الالتزام بنشر التقارير المالية في الوقت المحدد قضية مهمة الآن أكثر من أي وقت مضى بسبب التغيرات الكبيرة الحادثة في بيئة الأعمال. استهدفت الدراسة التحقق من تأثير الرقمنة على توقيت نشر التقارير المالية من قبل الشركات المدرجة في البورصة المصرية. وتقديم أدلة على دور الحلول الرقمية الجديدة في تفسر التباين في توقيت نشر التقرير فيما بين الشركات. أجريت الدراسة التطبيقية على عينة مكونة من (١٨٩) شركة مدرجة في البورصة المصرية، والقوائم المالية السنوية للشركات عن عامي ٢٠١٦ و ٢٠٢١، واستخدمت الدراسة تحليل الانحدار البسيط والمتعدد التدريجي لاختبار الفرضيات.

تشير النتائج إلى أن الشركات المشمولة في العينة تستغرق في المتوسط ما بين ٤٠ إلى ٨٥ يومًا لتقديم تقاريرها المالية السنوية إلى إدارة الإفصاح بالبورصة المصرية. وأن قطاع البنوك، وقطاع السلع الصناعية والخدمات والسيارات أفضل من حيث توقيت نشر التقارير المالية مقارنة بالقطاعات الأخرى، حيث كان مستوى الرقمنة في هذين القطاعين مرتفعًا. علاوة على ذلك، كانت شركات القطاعات الخدمية أفضل من حيث توقيت نشر التقارير المالية مقارنة بالقطاعات الصناعية، وكان مستوى الرقمنة فيها أعلى أيضًا. تشير نتائج تحليل الانحدار إلى وجود علاقة ارتباط معنوية سالبة بين توقيت نشر التقارير المالية السنوية، واستخدام الشبكات الاجتماعية، والمواقع الإلكترونية، والمنصات الرقمية من قبل الشركات المدرجة. وبناء عليه خلصت الدراسة إلى أن الرقمنة تعمل على تحسين توقيت التقارير المالية، فكلما زاد مستوى الرقمنة في الشركة، كلما قل الوقت اللازم لنشر تقاريرها المالية السنوية. تتمثل الآثار التطبيقية المترتبة على هذه الدراسة في أن رقمنة بيئة الأعمال تعمل على تحسين توقيت التقارير المالية، وبالتالي تحسين جودة المعلومات المحاسبية.

الكلمات المفتاحية: الرقمنة، الحلول الرقمية الجديدة، شبكات التواصل الاجتماعي، المواقع الإلكترونية، المنصات الرقمية.

1. Introduction

Over recent decades, the business environment has become increasingly digitalized (Betti et al., 2021). Digital technologies influence business architecture in all areas (Blaschke et al., 2017). New digital technologies are constantly hitting the market, causing changes in consumer behavior, forcing organizations to adapt their business strategy and models, marketing and supply chains and so on (Legner et al., 2017).

In the course of this evolution, business models are increasingly changing at the same pace as technology (Blaschke et al., 2017). Integrating digital technologies in business environment leads to significant changes. Digital technologies accelerate business activities by the standardizing business processes, and taking fully advantage opportunities and models of digital technologies (Hasan, 2023). Digital technologies provide more personalized ways of customer engagement, higher employee innovation and productivity, and more accurate insights, all of which help a company grow and give it a better business opportunity (Phornlaphatrachakorn, & Kalasindhu, 2021). In addition, digital technologies can empower companies to complete job tasks with greater speed and accurately and interpret and report data and information faster, more efficiently, and effectively.

Digitalization is a lively topic for business. Contrary to popular belief, business digitalization is not a new phenomenon; organizations have already faced several waves of digitalization (Legner et al., 2017). The first wave involves the use of computers to replace paper, the second wave involves the advent and use of the internet, and the third wave relates to SMACIT technologies (Social, Mobile, Analytics, Cloud and the Internet of Things) and refers to continued miniaturization, increased processing power, and expanded communication bandwidth (Legner et al., 2017).

In today's world, SMACIT technologies are not an option, but an essential business strategy. SMACIT technologies are present in every aspect of business, continuously reshaping it, forcing organizations to gradually adapt and digitalize themselves to survive. One of the reasons for using digital technologies is to improve the communication between preparers and users of financial reports. From this perspective, digitalization is a valuable approach to help organizations provide high-quality financial reports, providing useful, accuracy, and timely accounting information for effective decision-making (Wiralestari et al., 2020).

This research contributes to the literature on the timing of financial reporting in two ways. First, the researcher found a negative relationship between the timing of financial reports, the use of social networks, websites, and digital platforms by listed companies. Second, the researcher found that the level of digitalization in listed companies affects the timing of financial reports, the greater the digitalization, the shorter the financial reporting time. As such, this paper fills a research gap by providing important insights to understand the effect of the new digital solutions on the timing of financial reporting.

This paper is organized as follows; the next section deals with the prospective role of digitalization in improving the timeliness of financial reporting, followed by a literature review, hypotheses development, and then the methodology. Finally, analyses, discussion, conclusions, limitations, and suggestions for further research are presented respectively.

2. Timing of Reporting and the Role of Digitalization

The concept of "timeliness" is a critical characteristic of the usefulness of accounting information (Zandi, & Abdullah, 2019). Timeliness refers to the availability of accounting information to decision makers in a timely manner so that it can influence their decisions. In general, the more recent the information the more useful it is. Therefore, financial reports must be submitted before accounting information loses its ability to influence decisions (Hasan, 2023).

The timing of financial reports is receiving increased attention from regulators and authorities (Oraka et al., 2019), because timely reporting helps reduce the asymmetric information, leaks and rumors in the market, as well as avoid losing public confidence in reporting (Aigienohuwa & Ezejiofor, 2021; Aksoy et al., 2021). Whereas, unnecessary delay in the issuance of financial reports raises the level of risk involved in investment decisions (Aigienohuwa & Ezejiofor, 2021) due to uncertainty (Al Daoud et al., 2015) and increases information asymmetry among investors, leading to higher cost of capital (Zandi, & Abdullah, 2019).

The timeliness of accounting information seems to be an essential attribute in and of itself, however, it is becoming a more important issue now than ever before as a result of the phenomenal changes in both modern technology and business practices. In the current economic scenario, the importance of timely accounting information for economic reasons in general and capital markets in particular cannot be ignored (Oraka et al., 2019; Hoang et al., 2022). Despite this, there are some worrying trends regarding the time taken to release financial reports.

A growing literature provides evidence that new digital solutions such as social networks, websites, artificial intelligence, big data, block chain, and cloud computing, XBRL application etc. will change the way business is conducted, and will enhance the ability of accountants to interpret and report data faster, more efficiently, and effectively (Johnston & Zhang, 2018; Đurović et al., 2021; Kamel, 2021; Phornlaphatrachakorn, & Kalasindhu, 2021; Agostino et al., 2022; Hasan, 2023). Moreover, new digital solutions will reduce manual data entry, thus improving the speed, quality and accuracy of financial data (Agostino et al., 2022).

As technology continues to evolve at an exponential rate, digital transformations will accelerate. Social Networks, Mobile, Analytics, Cloud, and the Internet of Things (SMACIT) contribute to the accumulation of data. The business environment benefits from a culture of interactive work to create, experience, and respond to data more quickly, and increased access to electronic data to enrich products, services and customer relationships. As a result, the widespread adoption of smart and digital technologies is a great opportunity for business. Companies can work very smoothly to improve the efficiency and quality of the financial reporting and thus potentially have a significant effect on timing of the financial reporting reducing delays.

3. Literature Review

The concept of “timeliness” in financial reporting is a common issue in the accounting literature, and has been debated by academics for decades. Previous studies have documented many important findings about the factors affecting the timing of financial reports, and have provided evidence that the timing of financial reporting is influenced by firm characteristics such as size, profitability, debt-to-equity ratio, and ownership structure, etc. (Al-muzaiqer, Ahmad, & Abdul Hamid, 2018; Oraka, Okoye, & Ezejiofor, 2019; Zandi & Abdullah, 2019; Aigienohuwa & Ezejiofor, 2021; Martciesa, 2021; Hoang, Pham, Thalassinos, & Le, 2022; Novandalina, Ernawati, & Budiyono, 2022). For example, Martciesa (2021) found that profitability has a positive effect on the timeliness of financial statements. While the company age, size, and the ownership structure have no effect on the timing of financial statements. On the other hand, Ebaid (2022) found that the timing of financial reports is significantly related to three of the company’s characteristics, namely size, profitability and leverage, while there was no significant effect of ownership. Efobi and Okougbo (2014) and Hoang, Pham, Thalassinos, and Le (2022) found a negative relationship between the firm size, leverage, performance, and timeliness of financial reporting, while firm age was positive. While Aigienohuwa and Ezejiofor (2021), and Novandalina, Ernawati, and Budiyono (2022) found that leverage had no effect on the timeliness of financial reporting.

The delay of financial reporting may attribute to external auditors. Novandalina, Ernawati and Budiyono (2022) found that audit quality and audit opinion about financial statements had no effect on the timeliness of the presentation of financial statements. Efobi and Okougbo (2014) also found that audit type has no influence the timeliness of financial reporting because auditors cannot change the timeliness of financial reports without their client. While Al Daoud, Ku Ismail, and Lode (2014) found that firms with an unqualified audit opinion release their financial reports earlier than those that do not receive a clean opinion.

Several studies examined the relationship between timeliness of financial reporting and audit committee characteristics such as independence, diligence, gender and size (Puasa, Salleh, & Ahmad, 2014; Al-muzaiqer, Ahmad, & Abdul Hamid, 2018; Aifuwa, & Saidu, 2020). For example, Aifuwa, and Saidu (2020) found that the independence of the audit committee and the presence of female directors reduces audit report delay, and increases the timeliness of financial reports, and they did not find evidence of audit committee diligence. While Puasa, Salleh, and Ahmad (2014) found that the presence of non-executive directors, size and their financial expertise are related to the timeliness of financial reporting. On the other hand, Al-muzaiqer, Ahmad, and Abdul Hamid (2018) stated that there is no evidence to support the influence of the experiences and audit committee meetings on delaying the audit report.

The date of annual reports is influenced by corporate governance. Several studies have investigated the association between the board of directors and issuing date of annual reports and found a strong correlation exists as it is the board of directors with the authority to issue company's financial annual reports and thus disseminated to the public (Zandi, & Abdullah, 2019; Aksoy, Yilmaz, Topcu, & Uysal, 2021; Ashibuogwu, 2022; Ebaid, 2022; Hoang, Pham, Thalassinos, & Le, 2022; Alqatamin, & Shbeilat 2023). For example, Alqatamin and Shbeilat (2023), and Ashibuogwu (2022) found that a significant relationship exists between corporate governance characteristics and timeliness of financial reports. They found that there is a significant relationship between board size, board independency, audit independence, audit experience, and timeliness of financial reporting. This is consistent with Al Daoud, Ku Ismail, and Lode (2015) who concluded that the corporate governance mechanisms (i.e., board independence, size, diligence, financial expertise, CEO duality, and audit committee) play an important role in reducing financial reporting delay. Ashibuogwu (2022) who found that board gender has a negative effect on the timeliness of financial statements.

For digital transformation, previous studies found that the quality of accounting information is affected by digital transformation (Johnston & Zhang, 2018; Gulin, Hladika, & Valenta, 2019; Wiralestari, Rita, & Riski 2020; Phornlaphatrachakorn & Kalasindhu, 2021; Hasan, 2023). For example, Hasan (2023) found that the more a company moves towards digital transformation the more it leads to adequacy and reliability of accounting information and thus benefits its users. This is consistent with Phornlaphatrachakorn and Kalasindhu (2021) who found that digital accounting has a significant effect on the usefulness of accounting information and the effectiveness of strategic decision. In addition, Johnston and Zhang (2018) found that investing in technology reduces reporting delay by automating the reporting process.

From the literature review, it can be seen that there is little information on the effect of digital technologies, in particular the current wave of digitalization (SMACIT) on improving the timeliness of financial reporting. As such, this paper fills an important research gap by providing empirical evidence on whether the digitalization improves the timeliness of financial reporting as an important dimension of accounting information quality.

4. Research Hypotheses

As mentioned earlier, the shorter the time between the end of a company's fiscal year and the date the financial reports are issued, the more useful the financial statements will be to users. Digitalization raises questions about the timing of financial reporting, because digital technologies play a role in facilitating business processes. Previous studies have examined many factors affecting the timing of financial reports such as firms' characteristics, corporate governance characteristics, board characteristics, audit committee characteristics, audit quality, auditor type, and auditor opinion. However, there is not enough evidence for this relationship. However, there is not enough evidence for this relationship. To fill this research gap, this study examines the effect of an organization's level of digitalization on the timing of financial reports, and assumes that the higher the level of digitalization of an organization, the less time it takes to release its financial reports as stated below:

4.1. The use of Online Social Networks (OSNs)

Companies can no longer rely solely on providing products or services, they have to strengthen customer relationships and be proactive. Digital technologies can enhance customer relationships and even introduce new digital value. In addition, companies no longer have to guess what or how customers want; they can now collect data via online social networks (OSNs). OSNs are a relatively young but rapidly growing phenomenon on the Web. OSNs give companies the ability to reach customers digitally, responding to inquiries instantly. On the other hand, delays in providing financial information may result in loss of companies' reputation due to lack of transparency. The transparency and credibility of companies can be enhanced by providing financial information through OSNs as it represents an effective way to reach the target audiences.

From this perspective, the researcher believes that the use of OSNs prompts companies to share their financial information, especially financial reports, and to publish more information about their activities with audiences in real time. The more the company uses social networks, the less time it takes to release its financial reports. Thus, the researcher tests the following hypothesis:

H1: "There is a significant negative relationship between a company's use of social networks and the timing of financial reports".

4.2. The use of Websites

The publication of financial information via the Internet has witnessed phenomenal expansion during the past two decades. Financial statements and performance data are published on the Internet as a means of communication via companies' websites. Using companies' websites to publish their financial reports helps build investor confidence and enhances market efficiency, and allows to performance evaluation. Companies may not wait until the end of the legal period to submit their financial reports. Companies may use their websites to publish their financial reports in a timely manner to enable shareholders and investors to make rational decisions (Aksoy et al., 2021).

In addition, uses of websites allow companies to access geographically unrestricted, and share their financial information with relevant parties in real time, reducing costs and improving performance. Therefore, the researcher believes that the use of information technology, especially websites, contributes to improving the quality of accounting information through timely submission of financial reports. The more the company uses the website to publish financial reports, the less time it takes to release its financial reports. Thus, the researcher tests the following hypothesis:

H2: "There is a significant negative relationship between a company's use of the website to publish financial reports and the timing of financial reports".

4.3. The use of Digital Platforms

Digital Transformation is a two-stage process. The first stage enhances traditional products and services using digital technologies to become operationally superior, as digitizing operations mean that the company is doing better than it has always done (Betti et al., 2021). This stage creates operational excellence by incorporating digital technologies. The second stage goes beyond traditional products and services and uses digital platforms to innovate and deliver brand new customer value propositions (Blaschke et al., 2017). Companies know that they have reached this point when they begin to offer value to their customers that they had never offered before. Digital platforms keep track of all the components, so you have the component you need when you need it. The basis for building such a digital platform is cloud technology.

From this perspective, the researcher assumes that companies that use digital platforms to sell products and services online are more likely to comply with disclosure requirements in a timely manner, and to disclose more information about their activities. The more a company uses digital platforms to sell products and services online, the less time it takes to release its financial reports. Thus, the researcher tests the following hypothesis:

H3: "There is a significant negative relationship between a company's use of digital platforms and the timing of financial reports".

The following regression model was estimated to investigate the effect of research variables:

$$TIMS = \alpha + \beta_1(SOCI) + \beta_2(WEBS) + \beta_3(DIGP) + \varepsilon_{i,t}$$

Where:

TIMS	=	A dependent variable, which expresses the time period for announcing the annual financial statements to the public from the date the company's books are closed, measured in days of delay in announcing;
α	=	Constant of the model;
SOCI	=	An independent variable, which expresses the use of social networks by listed companies, measured on a ten-point scale;
WEBS	=	An independent variable, which expresses the use of websites by listed companies, measured on a ten-point scale;
DIGP	=	An independent variable, which expresses the use of digital platforms by listed companies, measured on a ten-point scale;
$\boldsymbol{\beta_{1,2,3}}$		Coefficients of the independent variables, which would be expected to reflect the sign and magnitude of variables;
$\boldsymbol{\varepsilon_{i,t}}$	=	The model error.

5. Methodology

5.1. Sample Selection

Using a sample of 189 companies listed on the Egyptian Stock Exchange, the researcher firstly measured the timing of financial reports for the selected sample, and secondly examined the effect of the new digital solutions on the timing of financial reports. The year 2016 was chosen because it preceded the significant use of digital technologies after the COVID-19 pandemic, while the year 2021 was chosen because it is relatively recent and reported in 2022. After excluding 29 companies due to lack of data, the final sample reached 189 companies, representing about 86.7% of the companies listed in the market, distributed over 18 sectors, as shown in Table 1 below.

Tab. 1: Distribution of the Selected Sample by Sectors

Industry classification	*N*	*%*
Banks	10	5
Basic Resources	11	6
Health Care and Pharmaceuticals	18	10
Industrial Goods, Services and Automobiles	5	3
Real Estate	29	15
Travel Leisure	12	6
IT, Media and Communication Services	7	4
Food, Beverages and Tobacco	26	14
Energy and Support Services	3	2
Trade and Distributors	6	3
Shipping and Transportation Services	4	2
Education Services	5	3
Non-Bank Financial Services	22	12
Contracting and Construction Engineering	10	5
Textile and Durables	6	3
Building Materials	10	5
Paper and Packaging	4	2
Utilities	1	1
Total	189	100

5.2. Data Collection and Methodology

For the data source, official websites and social networks (such as Facebook, tweeter) were used to collect the data of 189 selected companies. Considerable efforts were made to analyze the websites, social networks and digital platforms of the selected companies, and the data was collected manually. As for the financial reports, the study covered two year, namely 2016 and 2021, and the analyses focused on the date of publication of financial statements for these two years. As in previous studies, the researcher defined "timing of financial reports" as the day the company publicly releases its financial statements. The *TIMS* calculated for each company by counting the number of day's elapses between the end of the company's fiscal year and the day it publishes its financial statements. The researcher prefers to use "time out" instead of "delay" to indicate timeliness because if a company releases its financial statements by regulatory deadline, it cannot be said that the company has been late in issuing its financial statements.

In this study, the level of digitalization (*DIGT*) for each company is measured with a scale consisting of three items: the level of use of social networks, websites, and digital platforms, which are expected to effect on the timing of financial reports or reduce unjustified lead time in financial reporting. Each of the three items is measured on a ten-point scale, and then these three items are grouped into one factor that describes each company's "level of digitalization", called *DIGT*. Thus, to calculate the *DIGT* variable, the scores for these three items were averaged.

6. Analyses and Discussion

This section first presents the primary statistics indicators, and then discusses the results of the regression analysis for the hypotheses.

6.1. Preliminary Indicators

As shown in Table 2 below, the descriptive analysis indicates that the average time for financial reports for the year 2021 is 69 days, and the maximum time is 142 days, while the minimum time of financial reports was 11 days, which is a very short time, which reflects a significant difference between the companies included in the sample. As for 2016, it was found that the listed companies required an average of about 82 days to release their financial reports, while the maximum time was about 155 days, and the minimum time was about 16 days, also reflecting a significant difference between the companies.

Tab. 2: Descriptive Statistics for Research Variables

Panel A						
	Year	***Range***	***Min. (d)***	***Max. (d)***	***Mean (d)***	***Std. Deviation***
TIMS	2016	131	11	142	69	21.294
	2021	139	16	155	82	26.846
Panel B						
		Range	***Min.***	***Max.***	***Mean***	***Std. Deviation***
DIGT		0.80	0.20	1.00	0.58	0.1990
SOCI		0.81	0.21	1.00	0.65	0.1861
WEPS		0.79	0.23	1.00	0.63	0.1963
DIGP		0.90	0.10	1.00	0.48	0.2482

Table 3 shows the average timeliness of financial reporting and the level of digitalization for each sector. Panel (A) shows that for the year 2021, the average level of timing of financial reports in the service sectors was 67 days, which represents a lower level of timing of financial reports than the industrial sectors, which recorded 71 days. The average level of digitalization in the service sectors reached 61%, while the industrial sectors recorded only 57% of digitalization.

Tab. 3: Timing of Financial Reports and Digitalization Level by Sector

Panel A

Sector Type	*Year*	*Min. (d)*	*Max. (d)*	*Mean (d)*	*DIGT (%)*
Service sectors	2021	11	128	67	61
	2016	16	155	76	
Industrial sectors	2021	26	142	71	57
	2016	24	155	87	

Panel B

	TIMS (d) 2021	*TIMS (d) 2016*	*Δ TIMS (%)*	*DIGT (%)*
Banks	40	58	31	91
Industrial Goods, Services and Automobiles	45	85	48	91
Textile and Durables	69	106	35	82
Energy and Support Services	75	112	33	81
Utilities	63	90	30	80
IT, Media and Communication Services	70	96	27	75
Paper and Packaging	76	95	19	65
Building Materials	68	84	18	68
Basic Resources	80	98	18	64
Education Services	61	73	16	53
Real Estate	64	77	16	55
Contracting and Construction Engineering	76	91	16	54
Health Care and Pharmaceuticals	67	77	12	53
Food, Beverages and Tobacco	74	83	11	52
Shipping and Transportation Services	55	58	4	51
Non-Bank Financial Services	74	77	4	51
Travel Leisure	85	87	2	44
Trade and Distributors	66	66	0	37

Panel (B) in Table 3 above shows that, for 2021, the banking sector performed better with an average financial reporting time of about 40 days, and industrial goods, services and automobiles sector about one and a half months (45 days) compared to the travel leisure sector, which took an average of three months (85 days) to release its financial reports. Panel (B) also shows that, the average level of digitalization in the banking, industrial goods, services and automobiles sectors reached 91%, which represents the highest level of digitalization, while the trade and distributors sector recorded the lowest level of digitalization, at 37%. The results show that there is a difference in the timing of financial reporting between sectors, as companies operating in the basic resources sector require about 80 days, the paper and packaging sector (76 days), the food, beverages and tobacco sector (74 days), the non-bank financial services sector (74 days), healthcare and pharmaceuticals (67 days), and the shipping and transportation services sector (55 days). The banking sector is better at providing timely financial reports. This is likely as a result of being subject to stringent regulatory requirements.

Table 4 below presents the correlation matrix for the research variables. Correlation analysis was performed by Pearson Correlation with a two-tailed significance test to analyze the relationship between variables. According to the results shown below, there are significant correlations with all variables.

Tab. 4: The Correlation Matrix for the Research Variables

Variables	*SECT*	*INDS*	*TIMS*	*DIGT*	*SOCI*	*WEPS*	*DIGP*
SECT	1						
INDS	.078	1					
TIMS	.144*	.110	1				
DIGT	-.090	.104	-.309**	1			
SOCI	-.123	.122	-.248**	.922**	1		
WEPS	-.085	.081	-.309**	.950**	.830**	1	
DIGP	-.061	.104	-.312**	.958**	.811**	.872**	1

** and * denote significance at 1% and 5% level (2-tailed), respectively.

The results of correlation analysis indicate that there are a significant negative relationship between the timing of financial reports and both the use of online social networks (*SOCI*), websites (*WEBS*), and digital platforms

(*DIGP*) by listed companies. As for the sector, the results indicated that there is a significant positive relationship between the sector (*SECT*) and the timing of financial reports.

6.2. Regression Analysis

As a first stage, a simple regression analysis is performed to test the research hypotheses, and in the next stage, the researcher uses a multiple regression analysis to assess the predictive power of the independent variables.

6.2.1 The Test of the First Hypothesis:

The results of simple regression for the first hypothesis are shown in Table 5 below. The results indicate that there is a significant negative correlation between the use of social networks by listed companies and the timing of financial reports. Adjusted R^2 asserts that social networks use interprets 5.7% of the financial reporting timing variance. In addition, sig F indicates the significance of the results, and sig T indicates the significance of the regression coefficients (P-value < 0.05).

Tab. 5: Simple Regression Model for the Relationship between the Timing of Financial Reports and the use of Social Networks

Predictor	***B***	***Beta***	***R***	***R^2***	***T***	***Sig. T***
The use of Social Networks	-28.421	-0.248	0.248	0.062	-3.506	0.001
(Constant)	87.406					
Adjusted R^2	0.057					
F	12.291					
Sig. F	0.001					

Based on the results presented above, the first hypothesis can be accepted which states: “There is a significant negative relationship between a company's use of social networks and the timing of financial reports”. This result may be interpreted by the fact that companies with a high interest in using social networks may disclose financial information in time to enhance the transparency and credibility of the company. Online social networks are also an effective way to reach the target audiences, thus increasing their followers. On the other hand, differing interest in using social networks among companies leads to different financial reporting times for companies in different industries (see Table 3).

6.2.2 The Test of the Second Hypothesis:

The results of simple regression for the second hypothesis are shown in Table 6 below. The results indicate that there is a significant negative correlation between the use of websites by listed companies and the timing of financial reports. Adjusted R^2 asserts that companies' use of websites to publish financial reports interprets 9.1% of the variance in the timing of financial reports. Moreover, sig F indicates the significance of the results, and sig T indicates the significance of the regression coefficients (P-value < 0.05).

Tab. 6: Simple Regression Model for the Relationship between the Timing of Financial Reports and the use of Websites

Predictor	***B***	***Beta***	***R***	***R^2***	***T***	***Sig. T***
The use of Websites	-33.501	-0.309	0.309	0.095	-4.441	0.000
(Constant)	89.951					
Adjusted R^2	0.091					
F	19.721					
Sig. F	0.000					

Based on the results presented above, the second hypothesis can be accepted which states: “There is a significant negative relationship between a company's use of the website to publish financial reports and the timing of financial reports”. This result may be explained by the fact that companies websites have the advantage that: first, they serve as an additional means of communicating information in addition to the traditional approach of producing printed financial reports. Second, companies' websites are more interactive by doing things like making it easier for web browsers to search for specific information on the site. Third, companies' websites are much more user-friendly and comprehensive in terms of the information they provide to visitors. Fourth, companies' websites may contain presentations that support multimedia features.

In addition, the use of websites serves as a mechanism to reduce agency costs, and opportunistic behavior by managers, by creating a supervisory role for stakeholders to have continuous access to the company's financial reports in a timely manner. Moreover, this result supports the fact that the company's use of the website to publish financial reports has a strong incentive to maintain its relationship with its customers, and encourage them to follow its website to view the financial statements as well as an opportunity to market their products.

6.2.3 The Test of the Third Hypothesis:

The results of simple regression for the third hypothesis, as shown in Table 7, indicate that there is a significant negative relationship between a company's use of digital platforms and the timing of financial reports. Adjusted R^2 asserts that the use of digital platforms interprets 9.3% of the variance in the timing of financial reports. In addition, sig F indicates the significance of the results, and sig T indicates the significance of the regression coefficients (P-value < 0.05).

Based on the results presented above, the third hypothesis can be accepted which states: "There is a significant negative relationship between a company's use of digital platforms and the timing of financial reports". This result can be explained by the fact that companies that use digital platforms to sell their products and services online seek to attract more customers and even win their loyalty and trust as well.

Tab. 7: Simple Regression Model for the Relationship between the Timing of Financial Reports and Selling Digitally Online

Predictor	***B***	***Beta***	***R***	***R^2***	***T***	***Sig. T***
Selling Digitally Online	-26.792	0.312	0.312	0.098	-4.496	0.000
(Constant)	81.704					
Adjusted R^2	0.093					
F	20.214					
Sig. F	0.000					

According to Sebastian et al. (2017) a customer engagement strategy aims to create a channel that makes it easy for customers to order, inquire, pay and receive support in a consistent way at any time. Such a strategy relies on analytics applied to a growing repository of customer data, to better understand and anticipate varying customer demands. In addition, this type of digital strategy facilitates ongoing communications between a company and its customers. Easy access to financial information increases accountability and openness and built trust in the financial system while empowering the stakeholders with accurate financial information about businesses. Therefore, companies may seek to create a passionate base of loyal customers by timely disclosure of financial information.

In the next step, the researcher uses multiple regression analysis to inter all the variables of digitalization examined in this study, namely *SOCI*, *WEBS*, and *DIGP*, as predictors to assess their predictive power in clarifying the relationship between digitalization and timing of financial reporting, as shown in Table 8.

Tab. 8: Multiple Regression Model for the Relationship between the Timing of Financial Reports and the Digitalization Variables

Independent Variables	*B*	*Beta*	*Std. Error*	*T*	*Sig. T*
(Constant)	81.704		3.226	25.325	0.000
Selling Digitally Online	-26.792	-0.312	5.959	-4.496	0.000
R	0.312				
R^2	0.098				
Adjusted R^2	0.093				
F	20.214				
Sig. F	0.000				

As shown in table 8 above, the results indicate that the predictive power of the multiple regression model is 9.3% of the variance in the timing of financial reports. Moreover, the use of digital platforms is a significant variable at ($p < .01$). As mentioned earlier, the use of digital platforms (*DIGP*) has a negative relationship to the timing of financial reports. Based on the results presented in Table 8, *DIGP* variable has the highest explanatory power for variance in financial reports timing, and the main factor affecting the timing of financial reports according to this study.

Based on the results and discussions, it can be concluded that the use of technology improves the timeliness of financial reports, and makes publishing financial reports faster. These results are consistent with Johnston and Zhang (2018), Gulin, Hladika, and Valenta (2019), Aksoy, Yilmaz, Topcu, and Uysal (2021), Phornlaphatrachakorn and Kalasindhu (2021) and Hasan (2023) who found that the quality of accounting information affected by digital transformation. These results are also consistent with Johnston and Zhang (2018) who found that investing in technology reduces reporting delays by automating the reporting and closing process.

7. Concluding Remarks

Being on time in financial reporting is an important issue now more than ever due to the phenomenal changes in both technology and business practices. This study empirically investigated the effect of digitalization on the timing of financial reports of listed Egyptian companies, and provided new evidence on factors that can improve the timeliness of financial reports.

The results revealed that the listed Egyptian companies take an average of 40 to 85 days to release their financial reports. The banking, and industrial goods, services and automobiles sectors performed better compared to other sectors, and the level of digitalization for these sectors was high. Furthermore, the average time of financial reporting for the service sectors was lower than that of the industrial sectors with regard to the timing of financial reports, while the level of digitalization has been higher. The results of the regression analysis indicate that there is a significant negative relationship between the timing of financial reports, the use of social networks, websites, and digital platforms by listed companies. The study concluded that increased digitalization improves the timeliness of financial reporting, which meaning that the greater the digitalization, the shorter the time of financial reporting time, as companies control the time of financial reports more strictly. However, there are still some disturbing trends regarding the time taken to release their financial reports, with some companies taking up to 142 days.

Our results are not without caveats. First, the digitalization metrics used in this study are preliminary and need to be developed before they can be generalized. Second, the digitalization metrics do not taken into account the age of the company, experience, and the effectiveness and manner in which digital technologies are used. With these caveats in mind, care must be taken when interpreting the results.

Despite the above limitations, the results described in this study are a contribution to the existing literature, and provide an understanding of the effect of new digital technologies on the timeliness of financial reporting. The implication of this study is that digitalization improves the timeliness of financial reporting, thus improving the quality of accounting information.

Having said that, this study clearly shows that there is remains a research gap examining potential explanatory factors for financial reporting delay. Future research could address the following suggestions: examining the effect of other digitalization variables, such as ERP systems, cloud computing, and analytics to clarify the relationship between digitalization and timeliness of financial reporting; incorporating firm characteristics such as size, profitability, debt-to-equity ratio, and ownership structure, etc. as control variables in this relationship.

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