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Impacts of Meaning and Measurement of Risk-on-Risk Disclosure: An Empirical Study [1]

Risk Tanımı ve Ölçümünün Risk Açıklamaları Üzerindeki Etkileri: Ampirik Bir Araştırma

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ABSTRACT

The literature on risk has focused on different issues, such as the quantity and quality aspects of risk, how efficiently it is reported, and its role in increasing transparency. The current study aims to investigate the impact of risk meaning and risk measurement (assessment) on risk disclosure. In light of the empirical findings, this research study provides an in-depth understanding of the relationship between risk meaning and measurement and risk disclosure. This study considers the perceptions of the stakeholders; investors, shareholders (owners), management, and external auditors, because they are either users of risk disclosure or preparers of this kind of information. The data for the study were gathered using a questionnaire, which was distributed to key stakeholders. The study revealed a positive relationship between the meaning of risk and risk disclosure on the one hand and a positive association between the measurement of risk and risk disclosure on the other. This study extended the literature by providing empirical evidence that disclosure of risk can be affected by the meaning and measurement of risk on one side. Furthermore, Provide information about business environments such as those in Sulaimaniyah, Iraq.

KEYWORDS

Meaning of Risk, Measurement of Risk, Risk Disclosure, Accounting Disclosure

ÖZ

Riskle ilgili literatür, riskin nicelik ve nitelik yönleri, ne kadar etkin bir şekilde raporlandığı ve şeffaflığın artırılmasındaki rolü gibi farklı konulara odaklanmaktadır. Bu çalışma, riskin anlamının ve risk ölçümünün (değerlendirmesinin) risklerin açıklanması üzerindeki etkisini araştırmayı amaçlamaktadır. Ampirik bulgular ışığında, bu araştırma çalışması riskin anlamı ve ölçümü ile riskin açıklanması arasındaki ilişkinin derinlemesine anlaşılmasını sağlamaktadır. Bu çalışma, risklere ilişkin açıklamaları hazırlayan ve risk açıklamalarının kullanıcıları olan yatırımcılar, hissedarlar (sahipler), yönetim ve dış denetçiler gibi paydaşların risk algılarını dikkate almaktadır. Çalışma için veriler, kilit paydaşlara dağıtılan bir anket kullanılarak toplanmıştır. Çalışma, bir yandan riskin anlamı ile risk açıklaması arasında pozitif bir ilişki olduğunu, diğer yandan da riskin ölçümü ile risk açıklaması arasında pozitif bir ilişki olduğunu ortaya koymuştur. Bu çalışma, Irak'ın Süleymaniye kentindeki iş çevreleri hakkında bilgi verirken, riskin açıklanmasının bir taraftan riskin anlamından diğer taraftan da ölçümünden etkilenebileceğine dair ampirik kanıtlar sunarak literature katkı sağlamaktadır.

ANAHTAR KELİMELER

Riskin Anlamı; Risk Ölçümü; Risk Açıklamaları; Muhasebe Açıklamaları

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INTRODUCTION

Risks to companies are becoming more important. Risk management and disclosure practices have been strongly addressed since the global financial crisis. The US Financial Crisis Inquiry Commission cited risk management deficiencies, particularly in financial institutions, as a major cause of the financial crisis. Therefore, most countries have increased their requirements for listed companies to regain investors' confidence and protect them. However, some believe that current accounting disclosure may not satisfy information users and decision-makers. Thus, disclosure literature suggests that any reporting system reform should include a satisfactory scheme and typology of risks that companies face and models for risk quantification. As disclosing risk information may help investors invest in low-risk companies and external auditors assess a company's operational risk, it emphasizes management and control and improves financial reporting transparency.

Risk reporting research has been conducted in many countries, including the UK, Italy, Portugal, Canada, Australia, the USA, Romania, and Bulgaria in developed countries, as well as Egypt, the UAE, Iran, and Jordan in developing countries. They addressed; 1) company-related factors that influence risk disclosure, such as size, risk history, profitability, sector, cross-listing, corporate governance, and culture. 2) risk communication 3) Other research covered risk in terms of financial and non-financial approaches, quantification, time orientation, and impacts, resulting in 13 risk indexes. In addition, regulators set risk reporting standards and guidelines. Exploring additional variables that may affect risk disclosure may expand the literature. This study highlights the impact of meaning and concept on risk disclosure. It also shows how risk assessment impacts risk reporting. We also see that most risk research has been done in developed countries. Thus, Iraq lags behind developed nations in comprehending disclosure implementations, risk management, financial reporting, and corporate governance. Therefore, this research covers risk disclosure in Iraq.

1. LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESIS

1.1. Theoretical Framework of Risk

Both regulators and researchers are paying more attention to company risks. After risk management and disclosure gained momentum after the global crisis, this concern has grown. There are many articles on risk management, but few definitions of risk (Holton 2004). Financial risks are usually caused by unanticipated events, ambiguous behaviours, market creditworthiness and behaviour patterns, and other factors (Berre et al., 2019). Risk is characterized by measurable uncertainty and subjective probabilities (ibi). Qualitative factors like competitors (companies, governments, other enterprises, or people), transactions, and exposure also affect financial risk (Chorafas 2008). In business, risk is the likelihood of events or combinations of events that can damage a company's economic value (Kelliher et al. 2013). Accordingly, risk management involves the ability to identify, measure, and calculate risks' impacts in order to conserve, transfer, or reduce them based on the company's goals (Berre et al. 2019). Thus, risk management involves implementing mechanisms, rules, and procedures to reduce uncertainty, as well as analysing and quantifying potential losses from an event (ibi) and companies must manage risk holistically. The process of risk management, as described by Mehr and Hedges, consists of the following stages: determination and measurement of losses, controlling, and selecting risk management methods. This definition is very similar to the holistic Enterprise Risk Management (ERM) that has been introduced in recent years. All the risks to which a company is vulnerable are evaluated, compared, and aggregated to reveal how they affect the company's risk profile and goals. Risk appetite is the foundation of a company's ERM strategy (Foulquier and Arias 2016). According to Markowitz, a company's total risk is idiosyncratic and systematic (Berre et al. 2019). Most of the literature has focused on calculating risk and understanding its effects on business performance. In addition, Markowitz's 1952 attempt to quantify risk served as the impetus for the development of modern risk management. The importance of risk makes it necessary for risk practitioners as well as academics to conduct more in-depth research on the topic. Therefore, it would be beneficial to understand risk classification in order to better comprehend, report, and manage risks.

1.2. Classification of Risk

There are several types of categorizations in the literature, each of which is appropriate for a certain context and serves a specific goal. Adopting a financial or personal security system for particular hazards may be complicated and require expert judgment. Risk categorization depends on a company's risk definition. It's important to classify and categorize risks because ambiguity in classification can lead to confusion in risk reporting and management (Kelliher et al. 2013). Risk is defined according to its influence on a company's strategy: avoidable risks, strategic risks, and external risks (Kaplan and Mikes 2012). Financial risks were also

categorized by (Kelliher et al., 2013): market risk, credit risk, demographic and insurance risks, operational risk, liquidity risk, strategy risk, and frictional risks. Furthermore, Risk is classified as cladistics in the evolutionary framework. Cladistics categorization seeks to organize data based on an evolutionary framework. This categorization provides useful management insight into the types of risks faced by an organization, their change through time, and what the future may hold. This method was used at the 2014 World Economic Forum to reduce 31 risk factors that had been agreed upon internationally as being important to just 6 systematic risk factors (Evans and Wang, 2020). Also, based on the expected reward, risks are classified from the top down as follows: No reward is anticipated, reward is anticipated, and risk is unavoidably introduced. The cladistics classification categorizes risk by its key features. However, ERM has also contributed to the development of better risk categorization, evaluation, and administration. Furthermore, ERM has offered an appropriate framework for risk management in both the financial and non-financial sectors. Thus, the first hypothesis of the research can be generated as follow;

H1: The provision of a precise risk definition positively influences risk disclosure in financial reporting.

1.3. Measurement and Assessment of Risk

Performance measurement (Crouhy et al., 1999; Keating and Shadwick, 2002; Trudgen and Freeman, 2014) and capacity enhancement were the primary areas of study (Cogneau and Hubner, 2009). According to Boyle (2002), risk measurement is the initial stage in risk management since protection against undefined or mistakenly estimated threats is impossible. Therefore, measuring and modelling risks are crucial from a theoretical and practical standpoint (Zhu et al., 2019, p. 2). Risk management's cornerstone is risk measurement, assessment, and quantitative analysis (ibi). Risk assessment has a solid basis; its mathematical tools had been created for about a century before risk evaluations began to be carried out technically. As a result of the preliminary approval of negative consequences based on probabilistic measurements, risk assessment allows us to begin risk management and expand the reach of these measures up to the insurance industry (Chapter, 2018). The emphasis of a risk assessment is not on the risk itself, but on how that threat can affect the company, the financial market, and the customers (2020). In risk assessment, risk elements are presented accurately and quantitatively. It is stressed that technical risk assessment describes risks, computes the likelihood of their unintended consequences, and combines both by multiplying risk probabilities by effect sizes (Kolluru and Brooks, 1995). Risk assessment entails identifying, assessing, and analysing risks. It may be done at any level, from organization to individual (e.g., personal-based). Risk assessment may be performed in a variety of contexts; nevertheless, each may need a unique set of methodologies, tools, and procedures. According to Altenbach (1995), cost, labour force, time, talents, management concerns, sharing risk findings with people, and political issues all have an influence on how risk assessments are carried out. Risk assessment can help decision-makers with (ISO 31010/FDIS IEC 2009): 1) tasks, 2) opportunities, and 3) risk intervention. 4) choosing between risky choices, 5) prioritizing risk treatment options, and 6) choosing the most acceptable risk treatment technique to reduce negative risks. To conclude, risk assessment is the most important aspect of risk management since it helps define risk and its effect on the organization and informs decision-makers.

1.4. Process of Risk Assessment

Identification, analysis, evaluation, documentation, monitoring, and revision are the steps in risk assessment (ISO; 31010/FDIS; IEC 2009). The application of this procedure is also dependent on the condition of the risk management process, the techniques used, and the approaches implemented. Risk assessments may also need a unique interdisciplinary approach since risks might have a variety of origins and implications. The risk assessment is detailed below; Risk identification involves recognizing, judging, and categorizing real and anticipated risk occurrences or variables. Furthermore, this process also involves determining the reasons and sources of the risk, events, and situations that could have a material effect on the objective, and considering the nature of the impact (ISO; 31010/FDIS; IEC 2009). The following strategies may be used to identify risks: 1) Evidence-based techniques Systematic team approaches 3) inductive reasoning techniques such as HAZOP. Furthermore, several supporting approaches, such as brainstorming, the Delphi methodology (ibi), historical document analysis, scenario analysis, SWOT analysis, and the flow chart method, may be applied.

Risk analysis focuses on the emergence of risks and attempts to determine their consequences. It assists in choosing and deciding on treatments. This process comprises determining the effects and probability of risk occurrences, the level of risk, and verifying the availability and efficacy of controls (ISO; 31010/FDIS IEC 2009). The three sub-processes of risk analysis are prioritization, assessment, and evaluation. While risk prioritizing is a qualitative process, risk assessment and evaluation are quantitative (Creemers et al., 2010).

ISO 31010/FDIS IEC 2009 states that risk analysis may be conducted using qualitative, semi-quantitative, or quantitative methods.

Qualitative assessment; This method defines outcomes, probabilities, and risk levels depending on their significance level. To better understand the qualitative risks, they scaled them into nine distinct areas, sometimes known as "frequency-consequence pairings." Low-Low, Low-Medium, Low-High, Medium-Low, Medium-Medium, Medium-High, High-Low, High-Medium, and High-High are these pairings. The interpretation of areas with medium pair levels is clearly more difficult than that of the other regions (Elmonstri, 2014, P. 52).

Semi-Quantitative method; Experts have explored several semi-quantitative methods to improve comparative research (Cox et al., 2005). Semi-quantitative methods grade effects and probability numerically. Impacts and probabilities are incorporated in these methods to calculate risk levels. These approaches are labelled qualitative despite their quantitative foundations. Both qualitative and semi-quantitative techniques have limits when comparing risks (Altenbach and Brereton, 1998).

Quantitative analysis; Quantitative analysis predicts a specific value for events, their results and possibilities. It also scales risks in specific units. It should be noted that when a pure quantitative method is used, the risk levels that are found are just estimates. Risk may be analysed using control, consequence, and likelihood analysis (probability estimation). There are three general methods for estimating probability: 1) The first method predicts the future by studying the past. 2) using event and fault tree analysis for probability forecasts. 3) In systematic and structural processes, expert views may be used to estimate likelihood (ISO; 31010/FDIS IEC 2009).

Risk evaluation compares expected risk levels to risk criteria. Risk assessment determines future actions based on risk analyses. Ethical, legal, financial, risk perception, and other factors influence future actions. Risk assessment and intervention may rely on cost. In this context, risks may be addressed under three bands (ISO; 31010/FDIS - IEC 2009): Top, Middle, and Lower.

Risks may be documented by reporting. There, the risk assessment process, techniques, scales, units, and outcomes should be explained. The scope of the report should be based on the goals of the assessment. Assessments may include aims and extent, structural components and their roles, and a short description of the firm's internal and external settings (ISO 31010, FDIS, and IEC 2009).

Risk assessment is a continuous activity. Variables, methodologies, and assumptions employed in evaluations may vary throughout time. Assessments must be audited, improved, and updated. Identifying the data, checking it, and documenting the findings are all necessary steps.

1.5. Calculation of Risk

There is no worldwide definition of risk; however, ISO 31000 and other standards and frameworks address risk-related concerns (Ramakrishna, 2015). In traditional risk management, risk is measured by multiplying occurrence probabilities by loss values, and the maximum risk occurs when the possibility of loss is 100%. In the current method, the biggest risk occurs when the probability is low and the severity is high. For instance, market risk is the divergence from the mean predicted return, benchmark, or financial market. Its criteria include financial market risk, both systematic and idiosyncratic. The mean-variance is the easiest to execute since it corresponds to the most alternative financial market measurements (Caporin et al., 2014; Berk and DeMarzo, 2007; Cogneau and Hubner, 2009; Sortino and Forsey, 1996; Dowd, 2000; Foulquier, 2019, P. 34).

There are two approaches to portfolio analysis: 1) the traditional theory of portfolio analysis, which concentrates on the determination of the constraints of investors themselves; and 2) the modern theory, according to which investors attempt to decrease risks and increase return; in doing so, they follow the perspective of the association between the estimated returns and security risks; here, the quantitative analysis methods are used (Zhu et al., 2019, p. 1). Sharpe (1964) and

Lintner (1965) proposed the Capital Asset Pricing Model (CAPM) based on Markowitz (1952). This model depicts asset returns based on a risk-free rate R_f, market yield R_m, and mean-variance abnormal returns: $r_e = r_f + \beta[r_m - r_f]$ (1) CAPM links asset returns with mean-variance volatility (Berre et al. 2019). The CAPM has given rise to a few famous measures as follows (ibi, p. 35):

• Jensen's alpha (αp) is a measure of the aberrant performance of a portfolio in comparison to its theoretical performance as calculated by the CAPM (Jensen, 1968).

$\alpha p = E[rp] - r_f + \beta[r_m - r_f]$

• Treynor's ratio (Treynor, 1965) compares portfolio returns to risk-free asset returns per unit of market risk: (rp – rf) / β.

• The Sharpe ratio (Sharpe, 1966) measures the portfolio's excess returns (rp) compared to the risk-free rate (rf) after correcting for its risk p, allowing for more than the CAPM's mean returns: (rp – rf) /p.

Despite this, some writers see risk from the utility function. Thus, Arrow (1965) and Pratt (1964) created the Arrow-Pratt measure to assess customer risk aversion. When utility functions become more concave, consumers avoid risks more. The investor's risk tolerance determines the utility function; $R_n=\frac{1}{2}r(\omega)E[Z\text{-}z,2]=\frac{1}{2}r(w)\sigma_2^2$ (2)

Furthermore, Jia and Dyer's standard risk measurement clearly correlates risk measurement with investor preferences that fit the expected utility theory. Investment methods pose varying risks. Thus, it is possible to discuss a wide range of risks, from market risks to system risks. Systematic and non-systematic risks apply to investments. Thus, the risk here can be measured as; $R_{(x)} = E\big(u(x-\bar{x})\big)$. Consequently, the second hypothesis of the study is as follows:

H2: The provision of an accurate and verifiable risk assessment method will increase risk disclosure in financial reporting.

1.6. Risk Disclosure

Quality information is that which discloses a variety of relevant factors, illustrates the expected effects of future occurrences (whether negative or positive), and provides quantitative measures of those effects (Beretta and Bozzolan 2004). Despite the significance of quantitative risk information, KPMG found that financial risks are more likely to be reported than non-financial risks (KPMG. 2014). Thus, few businesses reported business risks (Domínguez and Gámez 2014; Cabedo and Tirado, 2009; FRC. 2009; Abraham and Cox 2007). This is because management instruments and mitigation measures for financial risks are better described than for non-financial risks (Cabedo and Tirado, 2009). Schrand and Elliott (1998) described risk disclosure as presenting all types of information concerning trade uncertainty in financial statements. Al Smadi (2017) and Hassan (2009) defined it as presenting potential events that could raise or decrease business assets or values. Disclosure of risk involves sharing information about firms' features, operations, strategies, and internal/external variables that may affect expected results (Beretta and Bozzolan 2004; Linsley and Shrives 2006). Linsley and Shrives (2006) define risk disclosure as a tool that informs people about a firm's threats, dangers, damages, and opportunities. The current study uses the latter definition. Amezaga-Alonso et al. 2020 offered a framework that included 1) revealing risk management components such as general policies, scope, etc. 2) Announcement of the guidelines for risk classification 3) reporting major risk probabilities and implications. Quality information (Beretta and Bozzolan 2004) and efficient risk disclosure fit the above points (ACCA 2014; KPMG. 2014; England and Wales 2011). According to Cole and Jones (2005), many countries requested more information, notably in the non-financial area of annual reports. Dobler et al. (2011) stated that financial and nonfinancial institutions should prepare risk information (Dobler et al., 2011). According to Hodder et al. (2001), risk reporting research has identified three key topics: enabling users and investors; the need for quantitative data in annual reports; and investors' and users' risk assessment challenges. A financial risk disclosure should include explanations in a format that allows consumers to analyse potential risks associated with a business, including environmental or social risks, because investors find relevant (Harper Ho. 2019). Research on reporting risks has been done in the UK, Italy, Portugal, Canada, Australia, the USA, Romania, and Bulgaria. They covered disclosure of risk (Abraham et al., 2012; Abraham and Cox 2007; Amran et al., 2009; Beretta and Bozzolan 2004; Dobler et al., 2011; Linsley and Shrives 2006); corporate governance's involvement in explaining disclosure (Elshandidy and Neri 2015; Mokhtar and Mellett 2013; Ntim et al., 2013); and the utility of disclosed risk information (Campbell et al. 2014; Kravet and Muslu 2013). Serrasqueiro and Mineiro (2018) also examined risk in terms of financial and non-financial approaches, quantification, time orientation, and impacts. Deliotte noted that the standards recommend providing risk appetite (Nichita and Turlea 2015), risk management, and impacts (Deliotte 2021). The literature on risk disclosure identifies risk classes. For example, Epstein and Buhovac (2005) divided these risks into four categories: strategic risks, operational risks, reporting risks, and compliance risks. According Branson (2015) the main risks are reported annually. Linsley and Shrives (2006) identified three narrative categories (financial/non-financial, downside/upside, future/past) and six risk factors (related to finance, operations, empowerments, information processing, technologies, and strategy). Crouhy et al. (2006) listed operational, strategical, market, reputation, liquidity, legal and regulatory, and credit risks. As mentioned in Linsmeir et al. (2002), technology, strategy, legal, and policy risks can also affect a firm's performance and success (Gonidakis et al. 2020). Gonidakis et al. (2020) listed the primary risk categories as financial; personal and integrity; legal, tax, and regulatory; business; political, social, and economic; operational, strategic; business

environment and market; and technological and information processing. Furthermore, the main risk categories have subclasses.

2. RESEARCH DESIGN AND METHODOLOGY

2.1. Data Analysis

For theory development, Hair et al (2011) recommend using the Partial Latest Square–Structure Equation Model (PLS-SEM) Software to analyse data. SEM uses indicator variables as proxies for latent constructs to measure phenomena (Nascimento and Macedo, 2016). PLS-SEM tests a theory in two steps: first, the measurement theory to verify the measurement models' reliability and validity, then the structural model. PLS-SEM uses nonparametric criteria like bootstrapping and blindfolding to evaluate a model (Hair et al., 2021). The determination coefficient (R2) can be used to determine the significance and size of path coefficients, predictive relevance, and effect sizes in a structural model (q2 and f2). The SEM allows for the evaluation of the interaction between the data and the theory through the use of multiple regression, factor analysis, principal component analysis, and discriminant analysis (Chin 1998). SEM combines path and factorial analyses to simultaneously evaluate the structural model and measuring model (Lee et al. 2011). The model is shown in Figure 1. A construct is measured by five items. Thus, the sample includes 49 stakeholders (investors, shareholders, company management, and external auditors) because they are either the primary users of financial reporting or the preparers of financial reporting. As a result, the content and quality of financial reporting may influence their decisions. Along with regulators and standard-setters, they can develop accounting disclosure. In recent years, Iraqi regulators have issued new corporate governance guidelines for the financial sector. The guideline did not apply to non-financial institutions. Thus, this study examines how risk meaning and measurement affect risk disclosure. The survey is used to gather sample data on risk perceptions. Data was collected via email and social media using a monkey survey.

2.2. Demographic Information

Sixty respondents received the survey. Fifty-five (92%) were collected and forty-nine (89%) completed. This is because the majority of these stakeholders are extremely busy and therefore unable to respond in a timely manner or finish the survey. Figure 2 shows respondent information; 89% of respondents were male and 11% female, indicating that Sulaimaniyah's business community is dominated by men. 29% hold master's degrees, 26% bachelor's, 17% PhD, 11% CPA, 6% ACCA, and 11% other. 40% are accountants and financiers, 30% are business administrators, 15% are auditors, and 15% are in other areas. 40% Finance Manager, 29% Management (CEO, CCO, COO, Senior Adviser of the Chairman of the Board of Directors, etc.), 14% Auditor, 9% Shareholder, and 9% Investor. The responses are relevant because 1) they either prepare or use the information.2) Over 75% have worked for over 10 years.

2.3. Assessment of the Reflective Measurement Model

Reflective measurement model estimates can be assessed for reliability and validity. Reliability in the reflective measurement model includes indicator and construct levels (internal consistency reliability). Each measure's convergent validity is determined by the average variance extracted (AVE). The heteritrait-monotrait (HTMT) ratio of correlations indicates the construct's discriminant validity relative to other construct measures in the same model. Convergent validity, indicator reliability, composite reliability, and discriminant validity were used to evaluate latent variables in this study. AVE will evaluate convergent validity. This indicator shows the latent variable's contribution to indicator variance. AVE greater than 0.5 is recommended to demonstrate convergent validity because the related latent variable explains more than half of the variance in the related indicators (Fornell and Larcker 1981). All AVE values are above 0.5 in this study. Factor loading estimates assess indicator reliability. Factor loading above 0.708 indicates that the latent variable explains 50% of the indicator variance. Since construct validity and reliability are met, lower values are not a problem. Table 1 shows factor loadings and their significance. Most of them are within the accepted threshold at the significant level of 1%, except for indicator MR3. This suggests that the measures are reliable. Internal consistency reliability is assessed next in the reflective measurement model. This illustrates how indicators measuring the same construct are related. PLS-SEM uses composite reliability rho (Jöreskog 1971). More reliable values are higher. Values between 0.6 up to 0.7 are considered “acceptable in exploratory research” and 0.7 to 0.9 range from “satisfactory to good” (Hair and Sarstedt, 2021). In Table 2, risk measurement and disclosure are acceptable at 0.59 which is near to 0.6, while risk meaning is satisfactory to good at 0.77. The term discriminant validity refers to the fact that two latent variables represent statistically and sufficiently different theoretical concepts. Discriminant reliability is highlighted by an HTMT (Henseler et al., 2015), so an HTMT of less than

0.85 (more stringent threshold) or 0.9 (more lenient threshold) and definitely less than 1 is desirable (Franke and Sarstedt, 2019). Table 3 shows HTMT for all constructs. Since all constructs are within the threshold, discriminant validity is achieved.

2.4. Assessment of the Structural Model

PLS-SEM does not have a global goodness of fit measure, so its use for theory testing and confirmation is limited (Hair et al., 2021). Goodness-of-fit in PLS-SEM has had limited success (Schuberth et al., 2018). PLS-SEM model estimation and evaluation use a casual-predictive paradigm from logic and theory. PLS-SEM is ideal for practice-oriented research because it is casual-predictive. According to Sarstedt and Danks (2002), PLS-SEM focuses on model estimation and evaluation (Sarstedt and Danks 2022). However, the model fit of the model highlighted in Table 4 indicates that the threshold of the standardized root mean square residual (SRMR) is 0.85 (conservative) and 0.90 (more flexible). The table shows 0.15. This study agrees with Hair Je et al. arguing that model fit in PLS-SEM cannot assess theory. Despite the fact that model fit is contradictory, the structural model can be evaluated using other criteria, such as assessment of collinearity issues, because path coefficient estimation in the structural model is based on ordinary least squares (OLS) regressions of each endogenous construct on its corresponding predictor construct. When there is a high level of collinearity among predictor constructs, the path coefficients may be biased. The variance inflation factor (VIF) is calculated by using the construct scores of the predictor constructs in each regression in the structural model (Hair and Sarstedt, 2021). A VIF value greater than 5 suggests predictor construct collinearity, but it can also occur at lower values of 3-5 (Becker et al. 2015). According to Table 5, the VIF value is between 1.08 and 1.91, indicating that the structural model has no collinearity problems. Structural model significance and relevance are assessed next. Structural model significance is shown in Table 6. According to the original path coefficient estimates, risk measurement has a positive impact on risk disclosure, which is 0.414, and risk meaning is 0.370. T-values above 1.960 are statistically significant at 5%. Table 6 demonstrates that the t-value for all relationships in the model is greater than 1.960. This indicates that the effects are significant and statistically significant. The next step in evaluating a structural model is to assess its explanatory power, which can be done by testing the coefficient of determination (R2) of the endogenous constructs. R2 shows each endogenous construct's variance explained and explanatory power (Shmueli and Koppius 2011). This metric is also known as "in-sample predictive power" (Rigdon 2012). Many social science disciplines consider R2 values of 0.75, 0.50, and 0.25 substantial, moderate, and weak, respectively (Hair et al., 2011). In some fields, like stock-return forecasting, an R2 value of 0.10 is considered acceptable (Raithel et al. 2012). R2 values should be interpreted in light of the surrounding literature and other studies with similar aims and model complexity (Hair et al., 2021). Thus, more explanatory variables increase R2's value. Table 7 shows models R2 and F2. The R2 for risk meaning and measurement is less than moderate. statistic indicates model predictive power (Sarstedt and Danks 2022; Shmueli and Koppius 2011). Prediction errors are usually tested with RMSE (Hair et al., 2021). This metric is the square root of the average of the predicted and observed squared variances. The indicator mean absolute error (MAE) metric measures the average magnitude of errors in a set of predictions without focusing on their direction (overestimation or underestimation). Consider the following when interpreting the RMSE (or MAE) versus LM value comparison (Shmueli et al., 2019): The model has high predictive power when all indicators in the PLS-SEM analysis have lower RMSE (or MAE) values compared to the LM benchmarks; medium predictive power when the majority of indicators produce smaller prediction errors compared to the LM; and low predictive power when a minority of the dependent construct's indicators produce lower prediction errors. Table 8 shows the model has medium predictive power.

RESULT AND DISCUSSIONS

The data analysis revealed that survey participants believe that a clear definition and meaning of risk play an important role in risk reporting because understanding risk can help both prepare and reader of risk information. The result also suggests that when defining risk, the nature of an event—negative or positive—its effects on a firm's financial position and performance; quantitative reporting; and financial reporting tools should be considered. Table 1 also shows the order of factors affecting risk meaning: impacts of risk on the financial position and performance of businesses, quantitative reporting of risk, means of reporting risk, and the nature of risk. The result also shows that risk disclosure is positively and statistically significantly (0.370 at P = 0.0000) affected by risk meaning. The first hypothesis of this study, which assumed that there is a positive relationship between the meaning of risk and risk disclosure, is therefore supported by the findings of this research. The findings indicate that respondents believe risk measurement is crucial to reporting risk because a clear procedure aids risk information preparer. Use of the same methods for measuring risk over

time also aids the reader in making comparisons and gaining a deeper understanding of the data presented. The analysis suggests identifying risk drivers and calculating and highlighting risk's impact on the firm's financial position and performance when measuring risk. Furthermore, reasons lead to risk, and risk impact is of the first order (i.e., 0.815), allowing for risk measurement. The probability of a risk occurring in the second order (0.780) helps users of risk information understand risk effects and make future predictions. Standards and regulation help measure risk because they simplify complex issues. It also enhances risk information comparability across firms. Standards and regulations are rising in risk assessment. The comprehensiveness of the standards, such as IFRS, which may be aimed at practitioners in the finance and accounting fields, may be the cause. Results show that risk measurement positively affects risk disclosure (0.414 at a P value of 0.0000). In light of this, the second hypothesis of this study, which assumed that there is a positive relationship between risk measurement and disclosure of risk, is supported. Additionally, risk disclosure is more affected by risk measurement than risk meaning. When it comes to risk disclosure, the results show that, while the quantitative aspects of risk information are important, the qualitative details are also appreciated by respondents. Quantified/qualitative risk reporting had the highest significance (0.793) in risk disclosure. Following that, risk disclosure is influenced by the orientation and impact of risk information. This factor ranks second (0.749) in risk reporting factors. Finally, risk classification, such as operational risk, strategic risk, etc., plays a role in risk disclosure but is less important than other factors.

To summarize, the findings of the data analysis show that a clear understanding of risk plays a positive role in increasing risk reporting. Furthermore, factors influencing the meaning of risk include the nature of the risk (positive or negative), the financial impact, the quantitative manner of reporting, and the means of reporting, such as financial reporting. Another factor affecting risk disclosure is risk measurement. The introduction of reason, the financial impacts of risk, the likelihood of risk, international standards, and local regulation can all affect risk measurement. Finally, the respondents highlight key considerations in risk disclosure, including the use of quantitative and qualitative methods in reporting risks, the emphasis on time and the nature of impacts, and the application of a risk matrix and classification.

CONCLUSION

This study examined the literature on risk. It highlighted the current literature on risk and showed that more work is needed because each author's interpretation of risk is different. Thus, a comprehensive definition of risk is necessary to improve disclosure in general and risk disclosure in particular. The study's second section examined risk measurement and assessment literature. The study found that risk measurement improves risk disclosure. It also highlights key areas in risk assessment, such as determining risk causes and financial impacts, calculating risk likelihood, and providing appropriate standards and guidelines. The findings of this study call for additional research to be conducted on the factors that influence risk measurement. In the final section of this research, risk disclosure content and factors affecting it were discussed. This study recommends conducting additional research on risk disclosure, particularly research covering the foundations that must be adhered to when disclosing risk information, such as the materiality principle. This research is limited to Iraq and Sulaimaniyah, so future research can be done elsewhere.

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APPENDIX

1. CONTRIBUTORS

OMM and AA wrote the study together. OMM studied on literature. OMM performed all the analyses. AA performed quality control checks of data extraction, data cleaning, and analysis. All authors discussed and interpreted the results. All authors approved the final version.

2. DISCLOSURE STATEMENT

No potential competing interest was reported by the authors.

3. TABLES

(1) The CAPM's portfolio expected return is E[rp]. When α exceeds 0, the portfolio exceeds its reference market.
(2) Whereas σ_2^2 is the securities return variance
(3) Where: $\bar{x}$ Refers to the expected return of security of X, U refers to the utility function of V.N.M. Here, the standard risk variable is defined depending on zero expected income benchmark X =$(x - \bar{x})$.

Table 1. Measurement model evaluation

Code	Construct/Indicator	AVE	Loading	P Value
MR	**Meaning of Risk**	0.579		
MR1	Risk contains both upside and downside factors affecting the performance of a firm		0.598	0.000
MR2	Users of information should know and determine the impacts of risk on the position and performance of the firm		0.870	0.000
MR3	Risk information should be included in the financial reporting of the firm		0.769	0.000
MR4	Risk information can be useful when presented in a quantified manner		0.788	0.000
RM	**Risk Measurement**	0.508		
RM1	I am satisfied when I know causes lead to raise risks and their consequences on the performance and financial position of the firm		0.815	0.000
RM2	In addition to understanding reasons for the risk and their impact also I want to know the probability of occurring each risk		0.780	0.000
RM3	The employment of international standards such as; ISO, IAS, IFRS, and regulations are sufficient for the measurement and assessment of risks		0.500	0.023
RD	**Risk Disclosure**	0.505		
RD1	Both quantified and qualified risk information can be useful for the decision-making process		0.793	0.000
RD2	When I review risk information I consider both time orientation (past, future, and without time orientation), and impact (good, bad, and neutral) dimensions of information		0.749	0.000
RD3	All types of risk information can be useful, but I pay particular attention to the following risks; financial, personal, operational, business, strategic, legal and tax, regulations, political and social, environmental, and technology and information processes		0.569	0.013

Table 2. Composite reliability of the measurement model

Item	rho	Composite reliability
Meaning of Risk	0.77	0.84
Risk Measurement	0.59	0.75
Disclosure of Risk	0.59	0.75

Table 3. Discriminant Validity- Heterotrait-Monotrait Ratio (HTMT)

Item	Risk Disclosure	Meaning of Risk	Measurement of Risk
Risk Disclosure			
Meaning of Risk	0.705		
Risk Measurement	0.897	0.546	

Table 4. Confidence interval of model (SRMR)

	SRMR	Mean	95%	99%
Saturated model	0.15	0.101	0.12	0.14
Estimated model	0.15	0.101	0.12	0.14

Table 5. VIF values (Collinearity)

Item	VIF
MR1	1.31
MR2	1.91
MR3	1.84
MR4	1.91
RM1	1.15
RM2	1.22
RM3	1.10
RD1	1.08
RD2	1.62
RD3	1.52

Table 6. Path Coefficient Estimates, Significance, and Confidence Interval

Path coefficient	Path coefficient	Mean (M)	standard deviation (SD)	t-Statistics	2.5%	97.5%	P value
Meaning of Risk> Risk disclosure	0.370	0.403	0.098	3.796	0.216	0.603	0.0000
Risk Measurement> Risk Disclosure	0.414	0.418	0.126	3.279	0.100	0.617	0.0000

Table 7. Assessment of the explanatory power of the model (R2)

Construct	R2	*f2*	Path Coefficient
Meaning of Risk	0.370	0.206	0.370
Risk Measurement	0.414	0.257	0.414

Table 8. Predictive power of the model (RSME or MAE)

Item	PLS-SEM		Linear Regression model		Difference (PLS-LM)	
	RMSE	MAE	RMSE	MAE	RMSE	MAE
X14-RD3	1.120	0.817	1.087	0.834	0.033	-0.017
X12- RD1	0.970	0.667	1.064	0.746	-0.094	-0.079
X13- RD2	1.021	0.784	1.057	0.806	-0.036	-0.022

Figure 1. Assumption of the study.

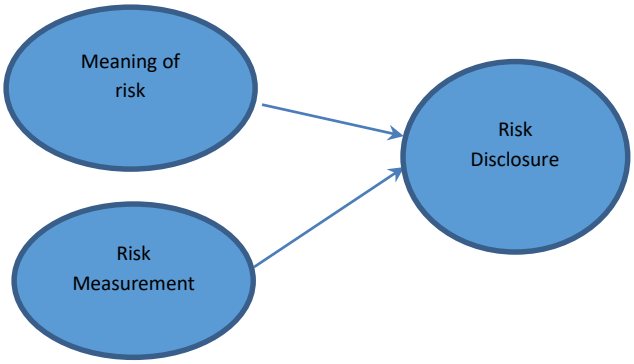

Figure 2. Detail about respondents