

Audit committee's attributes, overlapping memberships on the audit committee and corporate risk disclosure: Evidence from Jordan

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ABSTRACT

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This paper aims to contribute to the literature by examining whether audit committees' attributes affect risk disclosure practiced by Jordanian listed companies. Selecting a sample of 94 Jordanian companies listed on Amman Stock Exchange, the authors carried out a manual content analysis on annual reports to determine the level of risk disclosure. Random effect model was employed in the analysis. Empirical results show that the audit committee size had a positive effect on the level of risk disclosure. However, there was no evidence that the frequency of the audit committee meetings, expertise or overlapping of the audit committee membership were significantly related to the risk disclosure. The findings are important for standard setters to improve their comprehension about the influence of audit committee in disclosing risk information and reconsider the effective monitoring role played by audit committee.

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1. Introduction

The corporate governance regulations and previous academic literature have paid great attention to the characteristics of the audit committee and its oversight role as an important subcommittee of the board, whereby the board delegates the responsibility of monitoring the corporate reporting functions to the audit committee (Bedard & Gendron, 2010; Neifar & Jarboui, 2018). The audit committees coordinate among the internal- external auditors and management (Chen et al., 2005). When the firm has an active audit committee, this indicates that a firm has good accounting policies and effective internal controls, which in its turn deters fraud and ensures a higher level of financial reports quality (Felo, Krishnamurthy, & Solieri, 2003). Hence, an audit committee may serve as an effective monitoring tool to mitigate the agency problem and enhance the disclosures. Furthermore, an audit committee offers efficient monitoring on a manager's decision concerning introducing more voluntary disclosure (Samaha et al., 2012). The 2002 Securities Law and the Jordanian corporate governance code stated that audit committees in the Jordanian listed companies are accountable for overseeing the compliance of corporations with mandatory requirements of disclosure (Al-Akra et al., 2010a). The code encouraged the companies to form a good structure of audit committees, particularly in terms of size, meetings, and expertise. As a result, companies with effective audit committees should be compliant with the mandatory disclosure's requirements (Al-Akra et al., 2010a). However, in their study, Nimer, Warra, and Khuraisat (2012) revealed that the audit committees' effectiveness of the listed firms in Jordan seems to be weak. In another study, Zureigat et al,

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(2014) reported that 43% of the Jordanian firms do not have an audit committee, thus implying that they are not committed to the requirements of the corporate governance code in relation to the audit committee's attributes.

Similarly, the European Bank (2017) reported that the Jordanian companies are reluctant to disclose information related to the existence of the audit committee, the qualifications of the committee members, and the number of the meetings, thus raising doubts about the adherence of the audit committees to the requirements and their role in supplying risk information (European Bank, 2017). Besides, the researcher's survey on the Jordanian ASE-listed companies' financial reports revealed that the overlapping between the members of the board's committees is common. As a result, this could influence the audit committee's effectiveness in enhancing the quality of the financial reports (Chandar, Chag, & Zheng, 2012; Habib & Bhuiyan, 2016; Liao & Hsu, 2012). The effect of the audit committee's attributes on the corporate risk disclosure is still a questionable issue that has not been examined adequately. Therefore, the current study aims at highlighting the important role of the audit committees in terms of enhancing the risk disclosure practices. Furthermore, most prior studies that examined the effect of audit committees on the risk disclosure have concentrated on some common attributes (i.e., size, meetings, and expertise). However, no study has examined the effect of the overlapping of the audit committee on the risk information disclosed in the financial reports. Hence, the present study is the first one that considers the overlapping membership of the audit committees as a new characteristic of the audit committee, which may affect the level of risk information. Some authors (e.g., Chandar et al., 2012; Furqaan et al., 2019; Habib & Bhuiyan, 2016; Kalelkar, 2017; Ksnadi et al., 2016; Liao & Hsu, 2012; Shankaraiah, & Amiri, 2017; Van der Zahn, & Tower, 2005; Velte, 2017) have studied the relationship between the overlapped members on the audit committee and the quality of the financial reports. However, it remains an unexplored issue. The overlapping audit committee membership might be an influencing factor on the risk disclosure. Therefore, based on the above-mentioned discussions, the current study strives to introduce empirical evidence about the crucial role of the audit committee's characteristics on the risk disclosure level in the Jordanian companies, including the common characteristics (size, meetings, and expertise), as well as the study contributes to the literature by examining the consequences of overlapping membership and whether or not the common members improve the monitoring role of the audit committee by providing further risk information.

The remainder of this paper is structured as follows. Section 2 presents the regulatory framework for the audit committee in Jordan. Third section shows the theoretical framework and hypothesis development. The research method adopted is shown in section 4. Section 5 is dedicated to a discussion of the findings. Section 6 presents the conclusion, the implications of the study and provides several insights for future research.

2. Regulatory Framework for audit committee in Jordan

The 2002 Securities Law stated that the audit committees should be established for ensuring improved disclosure practices (Al-Akra & Hutchinson, 2013). After that, the Jordanian corporate governance code stipulated the board of directors to form the audit committees. The code recommended that the audit committee should comprise three members or more from the board of directors' non-executive members, and at minimum, two of them are independents. In addition, the chairman of the audit committee must be independent. Also, the code required the audit committee's members to have qualifications and experience in accounting or finance. Moreover, one of the members at least has worked previously in accounting and financial area. Further, the audit committees are required to hold at least four meetings within the year regularly. Also, the audit committee is required to meet the external auditor of the company at least one time in the year. Based on the code, the audit committee has several duties that should undertake as follows:

- Checking the financial statements and comments of the management.
- Improving the financial oversight and boosting the accountability.
- Ensuring that the management set effective internal controls and has accounting policies and whether the company complied with them.
- Reviewing the recommendations of the internal audit regularly and ensure that the management takes its recommendations into consideration.
- Examining the level of compliance with the regulations.
- Doing recommendation to appoint the external auditor.

3. Theoretical Framework and Hypothesis Development

The audit committees were considered as a monitoring mechanism, which was created in situations of the high agency cost in order to monitor the operations of the firms including information distribution between the principals and agents (Bradbury, 1990; Nurkhin & Rohman, 2020). Hence, the agency theory assumes that the audit committees are expected to mitigate the agency costs particularly when they apply best international practices (Samaha et al., 2012). In addition, investors demand urgently that the audit committees provide more information regarding the risk disclosure. Hence, agency theory offers more

explanations to the effect of the audit committees on risk disclosure and its level (Barakat & Hussainey, 2011; Taylor & Zhang, 2011). The audit committee's composition is considered a key factor in achieving the effective oversight on the management's performance (Chen et al., 2005). This committee supervises whether the companies' activities and resources are presented in their financial statements (Furqaan et al., 2019). The 2002 Securities Law stated that the audit committee in listed Jordanian companies are accountable for monitoring the compliance of corporations with the requirements of mandatory disclosure. As a result, companies with audit committees should be complied with mandatory disclosure requirement (Al-Akra et al., 2010b). Therefore, the current study examines the impacts of the audit committee size, audit committee meetings, audit committee expertise and overlapping of audit committee membership on the corporate risk disclosure.

3.1 Audit Committee Size

The size of the audit committee is viewed as one of the most important attributes of the audit committee that improves its effectiveness to perform the monitoring functions (Li et al., 2012). That is, the audit committee size would be related with a high extent of disclosure, thereby leading to the proposition that a more number of audit committee members will improve the quality of the information disclosed and has a meaningful effect on the financial reporting quality (Akhtaruddin et al., 2009). In other words, large audit committees dedicate greater resources to oversee the financial processes (Forker, 1992). Departing from resource dependence theory, audit committees having large members are highly advantageous and resourceful to guarantee an effective audit committee, owing to the knowledge and diverse skills that could be reciprocal among the members (Hillman & Dalziel, 2003; Mohamad-Nor et al., 2010). Based on agency theory, the members of the audit committee are delegated by the company's board to act on behalf of them through efficacious monitoring processes for bettering the interests of stakeholders. Hence, audit committee size would be a significant monitoring mechanism to reduce the agency costs and enhance the level of transparency and disclosure (Al-Moataz & Hussainey, 2012). More specifically, the audit committees distribute the monitoring workload to their members. Thus, it is necessary to ensure that the audit committee has sufficient members and they are not overly burdened by assigned duties (including risk management) (Abdullah et al., 2017). On the other hand, Vafeas (2005) argues that the small audit committees' size does not contain enough members to perform their duties; therefore, their monitoring role will be less effective. In line with that, the Jordanian corporate governance code suggests that an audit committee must encompass three directors at least.

The empirical results have revealed that the number of members acting on an audit committee is positively linked with the corporate disclosure. In the context of Saudi Arabia, Al-Moataz and Hussainey (2012) found that the audit committee size is related to the extent of corporate disclosure practices. Felo et al. (2003) and Ho and Wong (2001) also revealed that the audit committee size is positively correlated with the quality of financial statements. Likewise, Li et al. (2008) demonstrated the positive connection between the intellectual capital disclosure and the size of the audit committee. By focusing on the risk disclosure, prior studies have exhibited inconsistent results concerning the connection between the corporate risk disclosure and the size of the audit committee. For instance, Al-Maghzom et al. (2016) showed that the audit committee size negatively affected the corporate risk disclosure. Likewise, Abdullah et al. (2017) found that the audit committee size does not seem to affect the voluntary risk management disclosure. Also, Elzahar and Hussainey (2012) revealed a statistically insignificant impact of the audit committee size on the narrative risk disclosure. Accordingly, based on the agency and resource dependence theories and the mixed arguments mentioned above, a positive association is expected to exist between the audit committee size and the level of risk disclosure. Thus, the next hypothesis is formulated:

H₁: *There is a positive relationship between audit committee size and the level of risk disclosure.*

3.2 Audit Committee Meetings

the meetings that are more frequent help in enhancing the audit committee's activities and ensure that it carries out its oversight duties effectively, thereby decreasing the agency problems and reducing the information asymmetry between large and minority shareholders (Allegrini & Greco, 2013; Katmon & Farooque, 2017; Raghunandan & Rama, 2007). Also, agency theory suggests that regular meetings by the audit committee members keep the members better informed and more knowledgeable towards relevant accounting issues (Barakat & Hussainey, 2011; Raghunandan et al., 2001). The frequent meetings probably give rise to better monitoring of risks (Tao & Hutchinson, 2013). In Jordan, the corporate governance code recommended the audit committees to hold at least four meetings annually, whereby four meetings during a year are perceived to be an effective tool to monitor the management and provide further disclosure (Beasley et al., 2010; Persons, 2009). Previous studies have provided practical evidence on the advantages of the audit committee's meetings frequency in terms of improving the corporate disclosure (Al-Maghzom et al., 2016). For example, O'Sullivan et al. (2008) found that the audit quality was associated positively with the choice to disseminate more forward-looking information via financial reports. Similarly, Felo and Solieri (2009) stated that firms with higher audit committee meetings frequencies are more efficient in improving the quality of the financial reporting compared with firms with lower audit committee meeting frequencies. In addition, Vafeas (2005) and Xie et al. (2003) reported that the frequent meetings of the audit committees have a positive association with the earning quality. Allegrini and Greco

(2013), Kent and Stewart (2008), and Laksmana (2008) argue that the magnitude of the corporate disclosure has a positive relationship with the frequency of the audit committee meetings.

With respect to the corporate risk disclosure, most studies such as Abdullah et al. (2017), Alkurdi et al. (2019), Zhang et al. (2013), and Barakat and Hussainey (2011) have shown that the increased frequency of meetings helps in easing the channelling of risk management information in a company and improves the risk disclosure. Based on agency theory and the discussion above, the present study predicts that more frequencies of the audit committee's meetings lead to better monitoring functions and more risk information. Therefore, the following hypothesis is formulated:

H₂: *There is a positive relationship between frequent audit committee meetings and the level of risk disclosure.*

3.3 Audit Committee Expertise

The accounting experts serving in the audit committee may ensure an active system of internal controls, and subsequently contribute to enhance the financial reporting (Naiker & Sharma, 2009). Based on resource dependence theory, boards with valuable experience, knowledge, and expertise are perceived as an effective monitoring mechanism and have more abilities to bring external resources (Hillman & Thomas, 2003). Based on agency theory, the audit committee with expertise and knowledge, such as accounting, finance, information technology, and others would reduce the agency costs as well as the agency problems by improving the audit committee's supervisory role (Fama & Jensen, 1983). Hence, the audit committee expertise makes the audit committee more effective in terms of monitoring the financial reporting and leading to reduced agency costs (Krishnan & Visvanthan, 2008; Zhang et al., 2007). In addition, the audit committee aims at performing the assigned tasks diligently, which requires its members to acquire more skills, expertise, and knowledge to produce the financial reporting with a high quality.

Most previous studies, in line with agency and resource dependence theories, have confirmed the important role of the accounting and financial expertise of the audit committee's members in the financial reports quality. For instance, studies by Bedard and Gendron (2010), Carcello and Neal (2006), Bedard et al. (2004), Chen and Komal (2018), Dhaliwal et al. (2006), Felo et al. (2003), Ghafraan and O'Sullivan (2017), Qin (2007), and Siam et al (2018) have revealed that the accounting financial expertise of the audit committee was related positively to the higher quality of the financial reporting. Besides, Abad and Bravo (2018) showed that the accounting expertise of the audit committee members was related with the corporate disclosure.

The audit committee plays an important role in the risk management practices, which should have the expertise and time to ensure a high level of corporate risk disclosure (Abdullah et al., 2017; Fraser & Henry, 2007). Accordingly, based on agency and resources dependence theories, regulations, and the above discussions, the audit committee's expertise is expected to increase the level of risk disclosure. Hence, the following hypothesis is proposed:

H₃: *There is a positive relationship between accounting financial expertise on audit committee and the level of risk disclosure.*

3.4 Overlapping of the Audit Committee Membership

The audit committee members who are also in another committee would have more direct knowledge and will be an effective monitor (Habib & Bhuiyan, 2016; Liao & Hsu, 2012). According to resource dependence theory, the companies benefit from appointing members serving in multiple committees by bringing the expertise and knowledge gained from one committee and using this knowledge to enhance their monitoring roles in other committees. In this regard, there are common functions between the audit and risk committees (Hines, & Peters, 2015). For instance, the risk management committee is responsible for overseeing and managing the risk (Krus & Orowitz, 2009; Bates & Leclerc, 2009). As for the audit committee, it is responsible for the same oversight functions as well. Consequently, the overlapping between these committees could help to improve their members' efficiency. Departing from agency theory view, the contradictory objectives of the committees results in a weak coordination between these objectives, thereby leading to board's inconsistent decisions. However, the overlapped director could contribute in bettering the alignment of committees' interests and reducing the conflict among them (Hoitash & Hoitash, 2009). These overlapped members would provide more oversights of the financial reporting processes, thus leading to high-quality financial reporting (Zheng & Cullinan, 2009). In their study, Ferris et al. (2003) found a positive relationship between the multiple directorships and firm's performance. Likewise, Jaafar and El-Shawa (2009) showed that multiple directorships positively and significantly affect the firm's performance in the Jordanian companies. In addition, Chandar et al. (2012), Furqaan et al. (2019), and Habib and Bhuiyan (2016) showed that firms with overlapping audit committees membership have financial reporting at a higher quality level compared to firms without this overlap. However, Kusnadi et al. (2016), Shankaraiah and Amiri (2017), and Velte (2017) have found a positive and insignificant relationship between the overlapping member and financial reporting quality. As a result, according to the agency and resource dependence theories and the above discussions, it is suggested that firms having committees comprising of the same individuals lead to an enhancement in the information disclosure of companies. Therefore, the following hypothesis is proposed:

H₄: *There is a positive relationship between overlapping membership in the audit committee and another committee and level of risk disclosure.*

4. Methodology

4.1 Sample

The sample of the current study is the Jordanian-listed companies over four years (from 2014 to 2017) since they are considered the most important sources that contribute in an increase of GDP in Jordan (ASE, 2017; Moumen et al., 2016). The total market value of them represented 83% of Jordan's GDP in 2017 (ASE, 2017). The ASE divided the Jordanian-listed firms to three sectors: the financial sector, the industrial sector, and the services sector. The current study selected the industrial and services sectors, including 56 and 49 firms, respectively in 2017 (ASE, 2017). However, 11 firms were excluded due to data unavailability and other constraints. Also, firms in the financial sector have been excluded as they have different codes of the corporate governance that the Jordanian Central Bank and the Insurance Commission have issued (Al-Akra et al., 2009). In addition, they apply specific disclosure requirements and have different characteristics (Zeitun & Tian, 2007). Another reason for excluding the financial sectors is that their financial reports are incompatible to those of non-financial sectors (Hassaan, 2013).

4.2 Dependent variable and content analysis

The content analysis is an effective tool to summarise and analyse a quantitative data in written documents (Neuendorf, 2002), and it includes "replicable and valid methods for making inferences from observed communications" (Krippendorff, 1980, p. 21). In other words, the content analysis is a rich data source, because it can establish associations that are difficult to detect (Linsley & Shrives, 2006; Zhang et al., 2013). This method is adopted because the aim of this study is to examine the level or nature of risk disclosure regardless of the quality of corporate risk disclosures (Amran et al., 2009; Elzahar & Hussainey, 2012; Linsley & Shrives, 2006; Mokhtar & Mellett, 2013). Various coding units, such as words, sentences, portions of a page or a paragraph are allocated (Bowman, 1984; Mousa & Elamir, 2013). In the current study, the sentence is employed as a coding unit because a word is the smallest unit in a sentence and cannot clearly convey an idea or a message on its own out of context. Also, the word is meaningless unless it is contained in the sentences to provide a proper inference (Amran et al., 2009; Aryani & Hussainey, 2017; Ivers, 1991; Linsley & Shrives, 2006; Milne & Adler, 1999; Mokhtar & Mellett, 2013). In addition, using a sentence as coding units helps in avoiding the double-counting of the same sentence. That is, a risk sentence is counted only once even if it includes more than one word referring to risk disclosure (Elshandidy & Neri, 2015; Elzahar & Hussainey, 2012).

The current study adopted a broad definition of Linsley and Shrives (2006) following the example of numerous risk disclosure researches (e.g., Abraham & Cox, 2007; Ali & Taylor, 2014; Amran et al., 2009; Aryani & Hussainey, 2017; Dobler et al., 2011; Elshandidy et al., 2013; Elzahar & Hussainey, 2012; Konishi & Ali, 2007; Linsley & Shrives, 2006; Mokhtar & Mellett, 2013) to identify the risk-related sentences which inform the reader if "any opportunity or prospect, or of any hazard, danger, harm, threat or exposure, that has already impacted upon the company or may impact upon the company in the future or of the management of any such opportunity, prospect, hazard, harm, threat or exposure" (Linsley & Shrives, 2006, p.388). This involves the adoption of the set of decision rules developed by Linsley and Shrives (2006) and Konishi and Ali (2007) to distinguish the risk information in the annual reports from others (see Appendix B). Afterward, to ensure the validity of the coding processes for risk disclosure, this study employed the risk categories proposed by Linsley and Shrives (2006) that was used in many risk disclosure studies (e.g., Amran et al., 2009; Elzahar & Hussainey, 2012; Moumen et al., 2015; Moumen et al., 2016) (see Appendix A). Based on Linsley and Shrives' coding grids (2006), the risk disclosure sentences are classified according to their type and semantics into a group of categories, which are financial risk, operational risk, empowerment risk, information processing and technology risk, integrity risk and strategic risk. Finally, this study calculated a total risk disclosure score for each firm by gathering the number of risk-related sentences that exists in the annual reporting of the Jordanian firms (Elzahar & Hussainey, 2012).

Previous studies have used either automatic or manual methods for the content analysis or combined the two methods (Al-Maghzom et al., 2016). The automatic methods are often used when the sample size is larger. In addition, most annual reports of the Jordanian firms are scanned files, and thus it is difficult to convert from scanned to PDF files. The manual test requires to considers and read the whole relevant information leading to produce accurate outcomes (Mousa & Elamir, 2013). Also, humans can judge about the meaning of statement in the context better than a computer and are more effective and flexible (Deumes, 2008). Hence, several studies have utilized the manual method to apply the content analysis method (e.g., Beretta & Bozzolan, 2004; Linsley & Shrives, 2006). Thus, this study utilized the manual content analysis method.

4.3 Measurement reliability

Since, the content analysis may be susceptible to a subjective judgement (Moumen et al., 2016), the coding procedures should be reliable and valid in order to produce valid outcomes (Bowman, 1984; Weber, 1988). The reliability of the content analysis increases if it is conducted by more than one person or at more than one time (Hussainey, Schleicher, & Walker, 2003; Moumen et al., 2015; Neuendorf, 2002). To ensure the validity and reliability of the coding method, following the huge amount of prior studies (e.g., Abraham & Cox, 2007; Amran et al., 2009; Elzahar & Hussainey, 2012; Linsley & Shrivies, 2006; Moumen et al., 2016; Mousa & Elamir, 2013), a single coder, who is the supervisor's PhD student and assigned by him as an expert in the field and familiar with the content analysis method, reviewed and coded independently risk-related sentences in a pilot study of 40 annual reports, 10.63% of the total 376.

Before the pre-testing of the coding processes, the researcher explained the research objectives to the coder and trained him to master the decision rules adopted (Amran et al., 2009; Moumen et al., 2016). Afterward, the results from the two coders (the researcher and the coder) were compared to determine the level of consistency in applying those rules. Since, the measurement is considered reliable if other researchers replicate the same measurement and get the same results (Marston & Shrivies, 1991). To verify the reliability of the measurement, Cronbach's Alpha was applied as a statistical test to the consistency between the results of the two coders. In this regard, the Cronbach's alpha coefficient should exceed the 70% threshold (Pallant, 2005). The result of Cronbach's Alpha was 83.2%, thus indicating a high level of internal consistency between the outputs of the two coders and there are no significant differences between them. Hence, the content analysis can be considered a reliable measurement of risk information disclosed by the Jordanian-listed firms.

4.4 Model of the Study

This study used following multiple regression modal to investigate the influence of the audit committees' characteristics on the level of the corporate risk disclosure.

$$CRD = \beta_0 + \beta_1 ACSIZ_{it} + \beta_2 ACM_{it} + \beta_3 ACEXP_{it} + \beta_4 OVER_{it} + \beta_5 SIZE_{it} + \beta_6 SCTR_{it} + \beta_7 BIG4_{it} + \beta_8 LEVER_{it} + \varepsilon_{it}$$

Definitions of all variables used in the current analysis are presented in Table 1.

Table 1
Measurement of Variables

Acronym	Variables	Measurement
CRD	Corporate Risk Disclosure	Measured by number of risk-related sentences that exist in the annual reports of the Jordanian companies.
ACSIZ	Audit Committee Size	Measured by total number of audit committee.
ACM	Audit Committee Meeting	Measured by the number of audit committee meetings held during the financial year.
ACEXP	Audit Committee Expertise	Measured by dummy variable, 1 if at least one audit committee member has financial or/and accounting expertise and 0 otherwise.
OVER	Overlapping of Audit Committee Membership	Measured by dummy variable, 1 if at least one audit committee member sits on other committee and zero otherwise.
SIZE	Company Size	Measured by the natural log of the total assets.
SECTR	Type of Sector	Classified into industrial or services sector, and is measured by dummy variable, 1 if companies belong to an industrial sector. 0 otherwise.
BIG4	Audit Firm Type	Measured by dummy variable, 1 if audited by big 4 audit firm, 0 otherwise.
LEVER	Leverage	Measured by total debt to total assets.

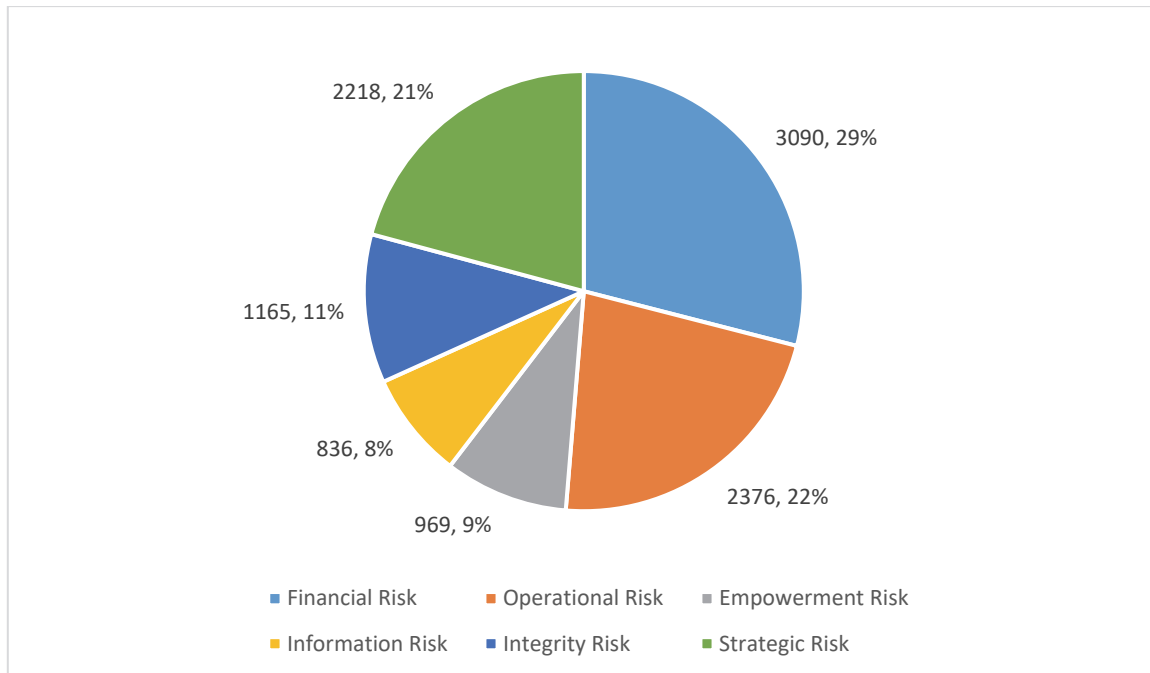
5. Results

5.1 Descriptive Statistics of Dependent Variable

Table 2 shows the descriptive statistics for the total risk-related sentences and the sentences frequency in 94 Jordanian firms' annual reports from 2014 to 2017. All risk-related sentences are categorized through one of six risk categories and computed as shown in Table 2. Figure 1 represents the level of risk sentences that are disclosed in all categories of risk. The total number of risk disclosure sentences is 10,660 sentences in all annual reports of the Jordanian firms. The total of risk disclosure sentences to each firm from a minimum value of 2 sentences to a maximum value of 61 sentences and the mean of CRD is 28 sentences. The average is very close to the averages of 20, 28, 20, 26, 28 sentences found by Amran et al. (2009), Elzahar and Hussainey (2012), Al-Shammari (2014), Mokhtar and Mellett (2013) and Moumen *et al.* (2016), respectively.

Table 2**Descriptive Statistics of Risk Disclosure**

Risk Disclosure	Sum	Mean	Min	Max	Percentage
Financial Risk	3090	8.218085	0	22	29%
Operation Risk	2376	6.319149	0	14	22%
Empowerment Risk	969	2.577128	0	10	9%
Information Processing and Technology Risk	836	2.223404	0	14	8%
Integrity Risk	1165	3.098404	0	11	11%
Strategic Risk	2218	5.898936	0	20	21%
Total Risk Disclosure	10660	28.35106	2	61	100%

**Fig. 1.** Number of Risk Disclosure Sentences for Each Category of Risk

The highest category of risk disclosure is the financial risk (3,090 sentences) which is about 29%, which indicates that the Jordanian companies disclose financial risks more than other types of risk. The result is consistent with those of Al-Shammari (2014) and Linsley and Shrives (2006) with 20.7% and 26.7%, respectively. The financial information helps the users understand the level of financial risks that the company faces. Hence, it is closely related to the mandatory information required by IFRS; it is therefore natural that the companies focus on this type of disclosure more than others (Moumen et al., 2016). The second highest disclosure category is the operational risk (2,376 sentences, 22%). This result is relatively close to studies conducted by Amran et al. (2009) in Malaysia and Oliveira et al. (2011) in Portugal and Spain, whereby the operational risk was around 30% and 15.4%, respectively. Mokhtar and Mellett (2013) also revealed that the operational risk is high in the annual reports of the Egyptian companies. The third highest risk disclosure category is the strategic risk (2,218 sentences, 21%). Similarly, Oliveira et al. (2018) found that the strategic risk is 19.3%, and Linsley and Shrives (2006) also found it high (31.7%).

It is noticeable that there is a gap between the above categories (financial, operation and strategic risk) and other categories (empowerment, information processing and technology, and integrity risk), which represent 9%, 8% and 11%, respectively. The potential reason for this gap may be that the disclosure's requirements in Jordan, as an emerging country, do not pay sufficient attention to the latter types of disclosure, depending instead on voluntary disclosure. Similarly, Amran et al. (2009) found that these categories disclosed at a low level in Malaysia.

5.2 Descriptive Statistics of Independent Variables

The descriptive statistics for the continuous variables (average, standard deviation, minimum, maximum, skewness and kurtosis) are shown in Table 3 and the dichotomous variables (frequency and the percentage of the variable) are shown in Table 4. With respect to the size of audit committee (ACSIZ), the statistics reported that the mean value is 3.213% in Jordanian companies with minimum of 2 and maximum of 6 members. These findings also provide evidence that the Jordanian firms comply with the JCGC recommendations that the audit committee should comprise three or more members. This average is almost identical to the average of 3.102% reported by Alqatamin (2018). The mean value for the frequency of audit committee meetings (ACM)

is 4.013%, ranging from 2 to 8, again in line with JCGC requirement which required audit committees to convene at least four meetings within the year, it is also in line with previous studies in Jordan such as Kikhia (2014) who found the mean value of ACM is 4.321. In terms of audit committee expertise (ACEXP), Table 4 present that the average of audit committee expertise is 65.69%, conforming to JCGC requirements that members of audit committee should be qualified and have experience in accounting or finance. Similarly, Alqatamin (2018) revealed an average of 61.54% in Jordan. The mean value for the overlapping members in audit committee (OVER) is high at 74.73%. These results indicate that the majority of Jordanian firms have overlapping members. The result is very close to that reported by Furqaan et al. (2019) who also found that more than three-quarters of audit committee members act on other committees of the board in the 100 top Malaysian listed companies. This result is justified by the limited number of directors, meanwhile, the JCGC requirements stated that Jordanian companies must form several committees with sufficient numbers of members. Thus, board members have to serve on multiple committees (Zheng & Cullinan, 2009). Regarding the control variables, Table 3 shows that the average firm size (SIZE) is 7.479, similar to Alsmady (2018), Siam et al. (2018) and Mardini et al. (2013) who found that the average size of the Jordanian firms is 7.45, 7.217 and 7.90, respectively. The percentage of firms in the industrial sector (SECTR) is 52.13%, which refers that more than half of the Jordanian firms are industrial firms. The result is close to the result of Al Daoud et al. (2014) who found that the industrial sector is 46%. In terms of audit firm type, Table 4 shows that 149 (39.63%) company-years are audited by Big4 audit firms and 227 (60.37%) by non-Big4 audit firms in Jordan. The results are consistent with those of Kikhia (2014) who found that the percentage of the Jordanian firms audited by Big4 was 37.1%. The mean value of leverage (LEVER) in this study is 32.273%, supported by Siam et al. (2018), Makhoulouf et al. (2018) and Abu Qa'dan and Suwaidan (2018) with figures of 38.3%, 35% and 35.9%, respectively.

Table 3
Descriptive Statistics for Continuous Variables

Variable	Mean	St.Dev	Min	Max	Skewness	Kurtosis
ACSIZ	3.213	.639	2	6	2.426	9.418
ACM	4.013	1.084	2	8	1.293	5.128
SIZE	7.479	.639	5.861	9.255	.323	3.585
	32.273	23.024	0	104	.782	3.052

Table 4
Descriptive Statistics of Dichotomous Variables

Variable Name	Observation	Frequency		Percentage	
		1	0	1	0
ACEXP	376	247	129	65.69	34.31
OVER	376	281	95	74.73	25.27
SECTR	376	196	180	52.13	47.87
BIG4	376	149	227	39.63	60.37

5.3 Diagnostic Tests

Several tests must be conducted to verify the qualification of the data panel. Multicollinearity is tested by the correlations matrix test and a variance inflation factor (VIF). The Pearson correlation coefficients among the independent variables are presented in Table 5. All the variables have a correlation of less than 0.456, which means there is no multicollinearity, because none of the variables correlates above 0.9. Consequently, the multicollinearity problem does not exist in this model. As shown in Table 6, VIF is much lower than 10 which are in the range of 1.137 to 2.019, and the mean VIF of all independent variables in one regression is only 1.466. Therefore, this indicates that there is no multicollinearity problem, as the VIFs are below 10 (Kline, 2005; Silver, 1997).

Table 5
Correlations Matrix of Study Variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) CRD	1.000								
(2) ACSIZ	0.129	1.000							
(3) ACM	0.096	0.300	1.000						
(4) ACEXP	0.118	0.021	-0.043	1.000					
(5) OVER	-0.015	-0.151	-0.100	0.134	1.000				
(6) SIZE	0.300	0.276	0.315	0.127	-0.069	1.000			
(7) SECTR	0.202	-0.023	-0.087	-0.053	-0.104	-0.120	1.000		
(8) AFT	0.176	0.113	0.246	0.047	-0.092	0.456	-0.094	1.000	
(9) LEVER	0.258	0.162	0.343	0.046	0.020	0.390	0.026	0.159	1.000

Table 6
Standard Tests on VIF Results

VARIABLE	VIF	1/VIF	VARIABLE	VIF	1/VIF
SIZE	2.019	0.495	ACSIZ	1.321	0.757
LEVER	1.506	0.664	ACEXP	1.316	0.76
ACM	1.454	0.688	SECTR	1.262	0.793
BIG4	1.419	0.705	OVER	1.137	0.879
Mean VIF	1.466				

This study used Breusch-Pagan-Godfery/Cook-Weisberg Test to test the presence of heteroscedasticity problem. In addition, the Wooldridge test was conducted to detect whether the autocorrelation problem exist or not. As shown in Table 7, the Breusch-

Pagan-Godfery/Cook-Weisberg test shows an insignificant p-value ($0.1895 > 0.05$). Consequently, the heteroscedasticity problem does not exist in the data of study. The result of Wooldridge test also shows an insignificant p-value ($0.0707 > 0.05$). This indicates that the autocorrelation problem does not exist in the data of study.

Table 7
Breusch-Pagan-Godfery/Cook-Weisberg and Wooldridge Test

	chi2(1)	Prob >	chi2
Breusch-Pagan-Godfery/Cook-Weisberg Test	1.72	0.1895	
Wooldridge Test	3.342	.0707	

In order to determine the appropriate model to the study, some tests are conducted. Lagrange Multiplier test (LM) helps select between the random effect model and the pooled OLS model. Table 8 displays that the result of LM test is significant ($0.000 < 0.05$). Thereby, using random effects is suitable in this study (Gujarati & Porter, 2012). The Hausman specification test is used to select between the fixed model and the random model. As shown in Table 8, the Hausman test is insignificant ($0.0664 > .05$). Hence, it could be concluded that the RE model is opted and run to analyze the data.

Table 8
LM test and Hausman Test

	chi2(1)	Prob >	chi2
LM Test	202.11	0.0000	
Hausman Test	25.20	0.0664	

5.4 Regression Analysis Results

The model was estimated by using a random effect method. Table 9 shows the findings of the relationship between the dependent variable (the corporate risk disclosure) and the independent variables (audit committees' characteristics) and control variables (firm size, sector type, audit firm type, and leverage). The model is statistically significant and fit at the 1% level with the P-value = 0.000, $R^2 = 0.23$.

Table 9
Multiple Regression Results

CRD	Coef.	Predict sing	t-value	p-value	Sig
ACSIZ	1.720	+	2.22	0.026	**
ACM	-0.557	+	-1.26	0.207	
ACEXP	1.955	+	1.42	0.156	
OVER	0.769	+	0.47	0.638	
SIZE	1.640	+/-	1.22	0.222	
SECTR	4.057	+/-	2.36	0.018	**
BIG4	1.805	+/-	1.12	0.261	
LEVER	0.018	+/-	0.67	0.501	
Constant	5.301		0.53	0.594	
Number of obs	376.000				
R-squared	0.230				
Prob > Chi2	0.000				

Table 9 shows that the direction of relationship between audit committee size (ACSIZ) and risk disclosure (CRD) is positive and significant ($t = 2.22$, $P = 0.026$). This suggests that the audit committees with more members help the firm to disclose more risk information than those with small audit committees. This result is consistent with the study's expectation; therefore, H7 is accepted and supported. This result is in line with resource dependence theory, thus indicating that the audit committees with many members are highly advantageous and resourceful in their monitoring functions due to their reciprocal knowledge and diverse skills (Hillman & Dalziel, 2003; Mohamad-Nor et al., 2010). Based on the agency theory viewpoint, the audit committee is authorized by the board of directors to act on behalf of them to maintain the interests of the stakeholders. Thus, they should be big enough to ensure strong supervision functions (Bedard et al., 2004). The result also supports the findings of Alzoubi (2016) that the audit committee size contributes to deter the practices of the earnings management in Jordan. Likewise, Alqatamin (2018) and Zraiq and Fadzil (2018) revealed that the audit committee size is positively related with the financial performance in Jordan. The findings also support those of Al-Moataz and Hussainey (2012), Barako et al. (2006), Ho and Wong (2001) and Li et al. (2008) who revealed that the size of the audit committee is positively associated with the disclosure.

Table 9 shows an unexpected result that the frequency of the audit committee meetings is insignificantly related to CRD ($t = -1.26$, $p = 0.207$), which implies that the frequency of the audit committee meetings does not contribute in providing more risk information. Therefore, the findings do not support H8, which proposed that the frequency of the audit committee meetings was

significantly related to the corporate risk disclosure. The insignificant result is inconsistent with the agency theory assumption that firms with more audit committee meetings are more efficient in improving the quality of the financial reporting compared with firms with a lower audit committee meetings frequency. Furthermore, this result is inconsistent with the findings reported by Allegrini and Greco (2013), Felo and Solieri (2009), Kent and Stewart (2008), Laksmana (2008), O'Sullivan et al. (2008), Vafeas (2005) and Xie et al. (2003) that the amount of the corporate disclosure has a positive association with frequency of the audit committee meetings.

Nevertheless, the insignificant result found in this study is similar to that of Baxter and Cotter (2009) who demonstrated that the frequent audit committee meetings were insignificantly linked with the earnings quality. Similarly, Ismail et al. (2008) found that the frequency of the audit committee meetings had no significant relationship with the corporate reporting quality. Felo et al. (2003) concluded that the frequent meetings had no impact on the financial reporting. In the context of the Jordanian companies, the possible explanation of the insignificant relationship between the frequency of the audit committee meetings and the risk disclosure is attributed to the fact that Jordanian firms hold meetings of the audit committees only to meet the requirements of the Jordanian corporate governance code, thereby ignoring the importance of such meetings in improving the quality of the financial reports. Besides, the audit committees that hold many meetings frequently may convey a good impression to the market about the continuity of the monitoring functions, thus decreasing the demand for public disclosure in the annual reports (Barros et al., 2013).

Table 9 shows that audit committee expertise (ACEXP) has a positive relationship with the corporate risk disclosure (CRD) ($t = 1.42$, $P = 0.156$), which signifies that the greater audit committee expertise results in more risk information. However, the coefficient of the audit committee expertise is insignificant, thus contradicting the expectation of study, which predicted a positive relationship between the audit committee expertise and the risk disclosure. Consequently, H9 is rejected. The results also contradict with the predictions of agency and resource dependence theories, that the boards with valuable knowledge and expertise are perceived as an effective monitoring mechanism and are able to exploit the external resources and reduce the agency costs, thereby leading to a better financial reporting quality (Fama & Jensen, 1983; Hillman & Thomas, 2003; Pfeffer & Salancik 2003). The finding is also inconsistent with Abad and Bravo (2018), Felo et al. (2003), and Mangena and Pike (2005) who found a significant positive association between the audit committee expertise and disclosure.

Nevertheless, this result is in line with Ismail et al. (2008) and Madi et al. (2013) who found that the audit committee expertise has not improved the level of disclosure. Saleh, Iskandar and Rahmat (2007) also revealed that the presence of the audit committee's directors with accounting expertise was insignificantly linked to the earnings management. Another study by Abdullah et al. (2017) found that the audit committee expertise has a positive and insignificant relationship to the risk disclosure.

A possible explanation for this result is, again, that the Jordanian firms are attempting to follow the requirements of the Jordanian code of the corporate governance, which stated that the audit committee members must have qualifications and experience in accounting or finance regardless of their members' real expertise or their actual monitoring role on management to provide a high level of risk information. This argument is supported by the findings of Kikhia (2014) that the audit committee expertise had no significant effect on the audit fees in Jordan.

Moreover, the insignificant role of the audit committee expertise in improving the level of risk disclosure practices may be also attributed to the assumptions of agency theory that the overseeing role of expert directors could be impaired in countries with a high ownership concentration. Further, the directors may be selected based on their relationship with the high concentrated owners rather than their experience, thus weakening their effect on the financial reporting quality. Jordan, as an emerging market, suffers from a high ownership concentration that is well known (e.g. Abu-Serdaneh et al., 2010; Jaafar & El-shawa, 2009; Zureigat, 2011). Furthermore, the measurement of the expertise used in this study is accounting and/or financial, although the members' expertise may be in the field of law, banking, academia or politics that might increase the audit committee's effectiveness.

Table 9 reports a positive relationship between the audit committee overlapping (OVER) and the level of the risk disclosure (CRD) ($t = 0.47$, $P = 0.638$). The result indicates that overlapping members in the audit committee contribute in improving the level of risk disclosure. However, the relationship is insignificant. Accordingly, H10 is not supported, which posited that overlapping of the audit committee membership could significantly increase the level of risk disclosure. These results do not support resource dependence theory, which proposes that the members who serve in multiple committees bring expertise and knowledge from other committee and use such knowledge in enhancing the effectiveness of other committees. Further, this finding contrasts with the findings of Chandar et al. (2012), Ferris et al. (2003), Furqaan et al. (2019) and Habib and Bhuiyan (2016) who showed that firms with overlapping memberships have high-quality financial reporting more than firms without overlapping memberships.

Nevertheless, this result is consistent with the findings of Kusnadi et al. (2016), Shankaraiah and Amiri (2017) and Velte (2017) who found a positive but insignificant relationship between the overlapped member and financial reporting quality. A possible explanation for this insignificant result is that overlapping membership might weaken the directors' efforts and the time allocated to the committees because the directors become overcommitted and have additional responsibilities. Thus, they do not have enough time to perform their duties in each committee effectively, which adversely affects their monitoring functions (Ferris et al., 2003; Liao & Hsu 2012).

In this regard, Liao and Hsu (2012) argue that the overlapping membership usually occurs in companies with weakened corporate governance mechanisms, and is not common in firms with a strong coordination between their committees. In addition, the overlapping membership creates conflicts of interest between committees, which weaken the effectiveness of the audit committee, particularly in relation to monitoring the financial reporting process (Hoitash & Hoitash, 2009).

The relation between the firm's size (SIZE) and the corporate risk disclosure (CRD) is insignificantly positive ($t = 1.22$, $p = 0.222$). This result is in line with Hassan (2009) and Aljifri and Hussainey (2007) who revealed an insignificant association between the two variables. Similarly, Alabdullah (2018) and Sartawi et al. (2014) revealed an insignificant relationship between the firm's size and the firm's performance, voluntary disclosures respectively in Jordan. Table 9 shows a significant positive relationship between the type of sector (SECTR) and corporate risk disclosure (CRD) ($t = 2.36$, $p = 0.018$), suggesting that firms in the industrial sector disclose risk information more than those in the service sector. This result is consistent with those reported by Cooke (1992) and Mangena and Pike (2005) who found a significant positive correlation between the type of sector and the corporate disclosure. In addition, Rajab and Handley-Schachler (2009) revealed that the industry type was significantly and positively related to the risk information that the companies disclose.

The result represents an insignificant association between the firm which is audited by big audit firms (BIG4) and the level of risk disclosure (CRD) ($t = 1.12$, $p = 0.261$). It could be concluded that no significant differences in the level of risk disclosure in the firms that are audited by big audit firms and the firms that are audited by non- Big 4 audit firms exist, and this finding is in line with Alhadab (2018) who revealed that BIG4 has no effect on the timeliness of the financial reporting and earnings management respectively in Jordan. This result is also consistent with the results of Barako et al. (2006) and Shammeri (2014). It was also found that the leverage of firms (LEVER) has an insignificant association with the corporate risk disclosure (CRD) ($t = 0.67$, $p = 0.501$). This result indicates that the leverage does not affect the level of risk disclosure. This result is similar to previous studies of Linsley and Shrivies (2006), Abraham and Cox (2007), Konishi and Ali (2007), Rajab and Handley-Schachler (2009), Elzahar and Hussainey (2012), Miihkinen (2012) and Ntim et al. (2013), who found an insignificant relationship between the leverage and the risk disclosure. In the same vein, Alrabba et al. (2018), Sartawi et al. (2014) and Kikhia (2014) revealed an insignificant relationship between the leverage and voluntary disclosures and audit fees respectively in Jordan.

6. Conclusion

Although the prior studies have shown an increasing interest in the monitoring role of audit committees, the literature examining their effect on corporate risk disclosure is still limited. Therefore, the current study adds to risk disclosure's literature by examining the effect of audit committee attributes on the amount of risk information released by firms listed in Amman Stock Exchange. Based on the findings of this study, no evidence indicates to the effectiveness of the audit committee in solving the agency problem by improving the risk disclosure practices in Jordan. Most of the variables (frequency of meetings, expertise, and overlapped members) were found insignificantly affecting the risk disclosure practices. Hence, the study failed to support the agency theory's view. Nevertheless, the significant effect of the audit committee size on risk disclosure supports the view of agency theory, which indicates that a larger audit committee could result in more efficient monitoring because a larger-sized committee is more expected to possess the needful expertise and knowledge to do so that than does a smaller committee. Thus, the audit committee members mostly focus on the quality of financial reporting process. The current study is also the first study to provide strong empirical evidence regarding the effect of the overlapping of the audit committee membership on the level of risk disclosure practices. Therefore, this study theoretically contributes to the existing knowledge by examining whether the overlapping between different committees influences the effectiveness of the audit committees to mitigate the sharpness of the agency conflict and provide further risk information to shareholders (principals). Accordingly, the findings of this study show that the overlapping of the audit committee members has an insignificant effect on the level of risk disclosure practices. Therefore, this result does not support the resource dependence theory, which posits that the resources resulting from the expertise of overlapped members would provide the audit committee with greater accesses to valuable external information and improve the risk disclosure level. Despite the fact that the Jordanian corporate code requires the firms to form the audit committees in order to warrantee improved financial reports, the audit committee's characteristics do not have a significant influence on the level of risk disclosure. Accordingly, this has implications for policy makers of the corporate governance to recognize that the monitoring role of the audit committee needs more improvements, and make sure that the audit committees perform their tasks effectively. They should emphasize that audit committee members have specific expertise or accounting backgrounds to achieve enhanced risk disclosure practices. They also should be aware that the separation between the directors'

membership within the board's committees might contribute to the effectiveness of these committees in accomplishing their anticipated targets. The study has some limitations that open new avenues for future research. First, the study is limited to investigate the factors that may affect on the level of risk disclosure, further research could be fruitful to investigate the consequences of risk disclosure (e.g., cost of capital, analysts' forecast, firm value and share prices). Furthermore, this study focused on the effect of the audit committees on the level of corporate risk disclosure in a single country, it would be necessary to extend the analysis at an international level. The study used a quantitative approach by gathering risk-related sentences. Therefore, future studies are stimulated to employ a qualitative approach by conducting interviews with the regulators, managers and annual reports' users.

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Appendix A**Risk Disclosure Categories Adopted from Linsley and Shrives (2006)**

Financial risk

- Interest rate
 - Exchange rate
 - Commodity
 - Liquidity
 - Credit
-

Operations Risk

- Customer Satisfaction
 - Product Development
 - Efficiency and Performance
 - Sourcing
 - Stock Obsolescence and Shrinkage
 - Product and Service Failure
 - Environmental
 - Health and Safety
 - Brand Name Erosion
-

Empowerment Risk

- Leadership And Management
 - Outsourcing
 - Performance Incentives
 - Change Readiness
 - Communications
-

Information Processing and Technology Risk

- Integrity
 - Access
 - Availability
 - Infrastructure
-

Integrity Risk

- Management and Employee Fraud
 - Illegal Acts
 - Reputation
-

Strategic Risk

- Environmental Scan
- Industry
- Business Portfolio
- Competitors
- Pricing
- Valuation
- Planning
- Life Cycle
- Performance Measurement
- Regulatory, Sovereign and Political

Appendix BDecision Rules for Risk Disclosures

To identify risk disclosures a broad definition of risk is adopted as explained below.

- Sentences are to be coded as risk disclosures if the reader is informed of any opportunity or prospect, or of any hazard, danger, harm, threat or exposure, that has already impacted upon the company or may impact upon the company in the future or of the management of any such opportunity, prospect, hazard, harm, threat or exposure.
- Although the definition of risk is broad, disclosures must be specifically stated; they cannot be implied.
- The risk disclosures are classified into the categories in the Appendix A.
- If a sentence has more than one possible classification, the information are classified into the category that is most emphasised within the sentence.
- Any disclosure that is repeated are recorded as a risk disclosure sentence each time it is discussed. If a disclosure is too vague in its reference to risk, then it is not recorded as a risk disclosure.



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