Acquisition and strategic use of competitive intelligence

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ABSTRACT

This study investigates the current status of competitive intelligence (CI) practices in Malaysia, and how managers acquire and use CI from various sources. Data are collected through mail questionnaire survey from 123 companies listed on Bursa Malaysia. More than half of the surveyed companies have a formal CI unit in their organisation. These units are mostly located within the marketing or market research or corporate planning department and has been established from 5 to 9 years. On average, 2 to 5 full-time personnel are assigned to take charge of CI activities. The top three sources managers acquire CI are newspapers and periodicals, the Internet and extranets, and customers. Whereas, the top three sources where CI is used in strategic decision making are customers, competitors, and newspapers and periodicals. In terms of source category, while the frequency of acquiring CI is higher from external impersonal sources, the frequency of using external and personal sources in strategic decision making is significantly higher than internal and impersonal sources. The article includes implications and recommendations for future studies.

Keywords: Competitive intelligence practices; Intelligence acquisition; Intelligence use; Intelligence sources; Strategic decision making; Malaysia.

INTRODUCTION

Majority of business organisations today have some sort of competitive intelligence (CI) activities in place, whether performed formally or not. Competitive intelligence can be defined in terms of both a process and a product. As a process, CI is the set of legal and ethical methods for collecting, developing, analyzing and disseminating actionable information pertaining to competitors, suppliers, customers, organisation itself and business environment (Society of Competitive Intelligence Professionals [SCIP] 2009). As a product, CI is actionable information about the present and future behavior of competitors, suppliers, customers, technologies, government, acquisitions, market and general business environment (Vedder and Guynes 2000). CI stands out because of its unique feature of "actionable" goal to facilitate effective decision making. Other synonyms to CI are competitor intelligence, market intelligence, corporate intelligence, and strategic intelligence. Competitive intelligence practice consists of various phases, ranging from planning and focus, to intelligence acquisition, analysis, dissemination, and use by potential users (Kahaner 1996; McGonagle and Vella 1996).

The need to systematically acquire and analyse intelligence from internal and external business environment is seen as a crucial element in making effective business decisions. Yet the formalized CI activities are considered relatively new; business managers have expressed their interest to understand how their organisation may benefit from systematic

CI activities. Most prior related studies examined the sources where information is collected (Choo 1994; Daft, Sormunen and Parks 1998). However, very little research has investigated the source where information is used in strategic decision making process. Competitive intelligence studies have been conducted in developed and developing countries, nonetheless, the present study is one of the first in Malaysia.

RELATED RESEARCH

As one of the earliest empirical studies in CI, Prescott and Smith (1989) conducted a survey to determine how leading-edge organisations develop an effective CI programme. The data was collected from 95 corporate CI practitioners who were members of SCIP. The study found that organisations tended to have decentralized CI programme located within the marketing or strategic planning departments with the average number of three staff. The budget allocated to CI programmes fell in the range of USD200K to USD500K a year. The findings suggested that all employees in the organisation were valuable intelligence agents, CI were project-based rather than a continuous and comprehensive effort, and CI personnel were result-oriented.

Lackman, Saban, and Lanasa (2000) examined the organisational structure of the CI functions in organisations. The data were collected through telephone interviews with 16 leading organisations in market intelligence, such as 3M, AT&T, Eastman Kodak, US West, among others. They found no single organisational structure used by the majority firms. The CI function was usually located in the marketing or marketing research or sales departments. The CI function seemed to be more effective when a company emphasized active participation among all personnel in CI process.

Tao and Prescott (2000) conducted a CI survey in China. The study found that CI developed rapidly but the practitioners have little experience in using a broad array of information sources and analytical techniques. Institutional environment is the major force in CI practices and personal information network was the key to success in CI initiative as information structure in China was less established and publicly available. The findings also revealed a need for a wider adoption of codes of ethics and training with western vendors to develop their CI collection and analytical skills.

Viviers et al. (2002) found that firms in South Africa were very poor in the formal organisation and processing of CI activities. The major source of CI was obtained from the employees. Marketing was the main function where CI was used in the strategic activities and thus the department was responsible for CI activities. Most firms spent the largest amount of time focusing on competitor sector. They concluded that the South African firms were not as well equipped to conduct CI practices as other countries like Japan, Sweden, France and the USA.

Adidam, Shukla, and Banerjee (2008) examined the CI practices in 145 Indian firms of various sizes, industry categories, and ownership structures through mail questionnaire survey. Customer sector was perceived to have the highest impact on organisations as well as the highest uncertainty, followed by competitor, international and economic sectors. About 60% of the firms conducted CI practices on a continuous basis, and the outputs were supplied in monthly intervals. The majority of CI functions was located in the corporate planning department, and only three samples had a separate dedicated department for this purpose. Most of the CI was collected through personal sources such as industry

experts, personal contact, and sales force. Competitive intelligence was perceived to be able to better serve customer needs and anticipate new business opportunities.

Zhang and Majid (2009) examined the environmental scanning behavior and the sources frequently utilized for the acquisition of environmental information among SMEs in Singapore. They found that majority of the firms perceived external environmental information as critical to their survival and growth and conduct frequent environmental scanning activities. Human information sources, specifically customers appeared to be the most important sources for environmental information acquisition followed by textual and online information sources.

Yunggar (2005) studied the scanning behavior of managers in Malaysian companies and how it is affected by environmental attributes. The study found that market and competitors were perceived to be the most important sectors but it was difficult to obtain information about them. These sectors also required the most time spent in acquiring the information. External sources were relatively more important than internal sources in the acquisition of environmental information.

OBJECTIVES AND METHOD

This study aims to (a) identify the amount of CI acquisition and the extent of CI use in strategic decision making; and (b) examine the sources where Malaysian managers use to acquire CI and its subsequent use in strategic decision making activities.

Self-administered questionnaires were sent by post to 900 chief executive officers of public listed companies, excluding those holding and conglomerate groups of companies to ensure relevance and validity of the findings. A total of 123 top executives from the various industry categories took part in this survey, generating a response rate of 14%. Slightly more than one third of respondents hold the position of vice president, general manager, divisional director or chief operating officer (37%), followed by departmental manager (34%) and chief executive officer or managing director (29%). Each industry category is represented by at least ten companies, with the exception of plantation industry, of which, trading/service, consumer product, and industrial product categories represent almost half of the total sample (49%). In terms of organisational size measured by total number of employee, the largest company has more than 30,000 employees, while the smallest company has less than 50 employees.

The survey instrument is adopted and modified from prior CI-related studies (Daft et al. 1988; Choo 1994). Most of the questions are of rating scale format to facilitate quantitative analysis. Some open questions are included to obtain further insight of the topic. The questionnaire comprises the following three sections:

a) CI Acquisition.
For CI acquisition, respondents answer two questions based on the importance of acquiring CI and the frequency of CI acquisition. Type of CI includes both internal and external sectors (Daft et al., 1998; Duncan, 1972). The study selects ten types of CI, including customer, competitor, supplier, technological, regulatory, economic, socio-cultural, human resources, global, and organisational. The importance of each CI type is measured along a five-point scale from 1 (not important) to 5 (very important). The frequency of CI acquisition is measured using a five-point scale labeled as: less than once a

year; few times a year; at least once a month; at least once a week; and at least once a day. An index for the amount of CI acquisition is computed by multiplying the acquisition frequency of CI and the importance ascribed to each type of CI.

b) Strategic Use of CI.

For strategic use of CI, respondents answer two questions based on the importance of each strategic decision in their organisation, and the frequency of CI use in strategic decision making. Strategic decisions is defined as having a significant impact on the future state of the firm and/or resulting in the commitment of large amounts of organisational resources (Dess and Robinson 1984). It is exemplified by development of new products and purchase of major equipment. The study selects eleven strategic decisions adopted from the studies by Mintzberg, Raisinghani and Theoret (1976), Dean and Sharfman (1996), and Culver (2006). These strategic decisions are merger and acquisition; strategic alliance and joint venture; market entry/exit; vertical integration; capacity expansion; new product/service development; diversification; divestment/divestiture; technology adoption; global; and organisation. The importance of each strategic decision is measured along a five-point scale from 1 (not important) to 5 (very important). The frequency of CI use in strategic decision making is measured using a five-point scale labeled as: never; seldom; sometimes; often; and always. Similar to CI acquisition, an index for the extent of CI use in strategic decision making is computed by multiplying the use frequency of CI and importance ascribed to each strategic decision.

c) Source of CI

Information sources can be grouped into two categories, external and internal, and further subdivided into personal and impersonal sources (Aguilar 1967). External sources are obtained outside the organisation while internal sources are generated within the organisation. Personal sources communicate information personally to managers whereas impersonal sources communicate information to broad audiences, or through formalized group communication activities. There is no universally accepted way of classifying information sources. Based on the grouping of information sources by Aguilar (1967); Daft et al. (1988); and Choo (1994), this study adopts a total of 16 sources for CI acquisition and use as follows:

(a) Four external personal sources are identified: customers; competitors; business and professional associates who would include executives of other companies, bankers, lawyers, financial analysts, academicians, and consultant; and government officials.

(b) Five external impersonal sources are identified: newspapers and periodicals; government publications; the Internet and extranets; publications and reports of industry and trade associations; and conference, business trip and trade show.

(c) Three internal personal sources are identified: superior and board members, peer colleagues and subordinates.

(d) Four internal impersonal sources are identified: internal memoranda and circulars; internal reports and research studies; company library; electronic information services that include the information systems and intranets.

Respondents use the list of 16 CI sources to indicate the frequency of using these sources in acquiring CI and making strategic decision based on a five-point scale labeled as: never; seldom; sometimes; often; and always.

RESULTS

Competitive Intelligence Practices Today
More than half (62%) of the surveyed companies have a formal CI unit in their organisation. The majority (79%) of the units are located at either marketing/market research or corporate planning department. About seventeen percent of the CI units are located at R&D, finance or other departments. Only three companies have a stand-alone CI unit. About two thirds of the formal CI unit in the sampled companies have been established between 5 to 20 years and slightly below a quarter of the companies have established a formal CI unit of less than 5 years. Only nine percent of them have a formal CI unit for more than 20 years. The majority (83%) of these companies employ less than 10 full-time staff in the CI unit, and more than half of them (53%) have two to five employees taking charge of CI activities. Seven companies (9%) have only one employee in the CI unit. As for the type of CI practices conducted by the surveyed companies, more than half (62%) practiced on a continuous basis, with continuous comprehensive being the dominant conduct (53%). Project-based CI practices come next with slightly less than a third (29%) of the surveyed companies. Seven companies (9%) each practice CI on the basis of ad hoc and continuous focus respectively.

Types of Competitive Intelligence Acquired
Companies perceive the acquisition of CI about customer to be the most important, followed by CI about competitor. Next is CI about technology and economic which receive equal importance. Acquisition of CI about socio-cultural and human resources is the least important. Companies acquire CI about customer most frequently, followed by the CI about economic, competitor, and global. The frequency of acquiring CI about socio-cultural and human resources is the lowest. The amount of CI acquisition is computed by multiplying the perceived importance of CI acquisition by the frequency of CI acquisition. The ranking of the amount of CI acquisition is similar to the frequency, in which customer is ranked first, followed by competitor, economic, and global. Even though, CI about technology is perceived to be the third most important, its relative lower level of acquisition frequency makes it ranked fifth in the overall standing. Similarly, the amount of CI acquisition is lowest for socio-cultural and human resources (Table 1).

Table 1: Amount of CI Acquisition by Type

Type of CI	Perceived Importance			Frequency			* Amount of CI Acquisition		
	M	SD	Rank	M	SD	Rank	M	SD	Rank
Customer	4.49	0.657	1	3.29	1.122	1	14.96	5.913	1
Competitor	4.34	0.688	2	3.17	1.162	3	14.08	6.319	2
Supplier	3.71	0.885	7	2.89	1.151	7	11.20	6.383	7
Technological	4.02	0.854	3	2.91	1.208	6	12.15	6.422	5
Regulatory	3.81	0.890	6	2.93	1.202	5	11.41	5.887	6
Economic	4.02	0.863	3	3.28	1.223	2	13.63	6.777	3
Socio-cultural	3.37	0.852	10	2.55	1.110	10	8.99	5.101	10
Human resources	3.47	0.750	9	2.70	1.116	9	9.65	5.097	9
Global	3.87	0.868	5	3.11	1.269	4	12.61	6.772	4
Organisational	3.63	0.783	8	2.82	1.124	8	10.60	5.444	8

Note. * Amount of CI Acquisition = (Perceived Importance X Frequency).

Competitive Intelligence Use in Strategic Decision Making

Among the 11 listed strategic decisions, the surveyed companies perceive capacity expansion as the most important strategic decision made in organisations, followed by decision concerning strategic alliance, products/services development, technology adoption, and market entry/exit. Meanwhile, decisions concerning divestment, and merger and acquisition are perceived to be the least important. The frequency of using CI is highest when making capacity expansion decision, followed by decision concerning new products/services development, strategic alliance, and technology adoption. Meanwhile, CI is least frequently used in making divestment decision. The frequency of using CI in making each strategic decision is consistent with the perceived importance of the type of strategic decision, in which the higher the perceived importance of a strategic decision, the higher the frequency of using CI in making that strategic decision. The extent of CI use is computed by multiplying the perceived importance of strategic decision and the frequency of CI use in strategic decision making. The ranking of the extent of CI use is similar to the frequency of CI use. The detailed information is shown in Table 2.

Table 2: Extent of CI Use by Strategic Decision

Strategic Decision	Perceived Importance			Frequency			* Extent of CI Use		
	M	SD	Rank	M	SD	Rank	M	SD	Rank
Merger and acquisition	3.52	1.126	10	3.40	1.143	10	12.95	7.268	10
Strategic alliance	4.18	0.820	2	3.94	0.990	3	17.06	6.461	3
Market entry/exit	3.94	0.890	5	3.87	1.004	5	15.84	6.385	5
Vertical integration	3.72	0.892	7	3.57	0.995	8	13.90	6.149	7
New product/service development	4.11	0.812	3	4.07	0.911	2	17.19	6.143	2
Capacity expansion	4.20	0.859	1	4.10	0.940	1	17.75	6.534	1
Diversification	3.57	0.933	9	3.57	0.936	9	13.35	5.947	9
Divestment	3.35	1.020	11	3.42	1.019	11	12.12	5.956	11
Technology adoption	3.97	0.819	4	3.89	1.003	4	16.04	6.420	4
Global	3.76	0.896	6	3.61	1.000	6	14.22	6.716	6
Organisation	3.70	0.799	8	3.58	0.822	7	13.72	5.199	8

Note. * Extent of CI Use = (Perceived Importance X Frequency).

Competitive Intelligence Acquisition by Source

Newspapers and periodicals is the most frequent source where CI is acquired, followed by customer; and the Internet and extranet; industry and trade associations; and competitors. On the other hand, internal reports; government official; internal memo and circulars; and company library are the least frequent sources used for acquiring CI. The detailed information is shown in Table 3. Each source of CI is further grouped under internal/external and personal/impersonal categories. The means and their standard deviations are shown in Table 4. External impersonal source category is the most frequently used source category for acquisition of CI followed by the external personal and

internal personal. Internal impersonal is the least frequently used source category. A significant difference exists between the frequency of CI acquisition from external impersonal and external personal (p = 0.002). Similarly, the difference between all external source category and all internal source category is also significant at $p < 0.001$.

Table 3: Frequency of CI Acquisition and Use by Source

CI Source	Acquisition			Use		
	M	SD	Rank	M	SD	Rank
External Personal:						
Customers	3.89	1.046	3	4.25	0.734	1
Competitors	3.56	1.079	5	3.98	0.894	2
Business associates	3.53	0.874	6	3.72	0.846	6
Government officials	3.15	0.942	13	3.26	0.861	12
External Impersonal:						
Newspapers, periodicals	4.11	0.925	1	3.96	0.948	3
Government publications	3.45	0.972	9	3.40	1.001	11
Industry, trade associations	3.62	0.982	4	3.74	0.934	5
The Internet and extranets	3.96	0.966	2	3.85	0.989	4
Conference, seminar, trade show, business trip	3.48	0.902	8	3.52	0.989	7
Internal Personal:						
Superior, board members	3.31	0.937	11	3.52	0.865	9
Subordinate managers	3.34	0.915	10	3.42	0.851	10
Subordinate staff	3.12	0.958	14	3.18	0.882	14
Internal Impersonal:						
Internal memo, circulars	3.11	0.972	15	3.07	0.946	15
Internal reports	3.25	0.905	12	3.26	0.880	13
Company library	2.66	1.058	16	2.57	0.996	16
Electronic information services/ intranets	3.47	1.092	7	3.52	1.054	8

Table 4: Frequency of CI Acquisition by Source Category (means and standard deviations)

	Personal	Impersonal	All External/Internal
External	3.53(0.765)[1]	3.72(0.749)[1]	3.63(0.679)[2]
Internal	3.26(0.811)	3.12(0.781)	3.18(0.668)[2]
All Personal/Impersonal	3.41(0.671)	3.45(0.661)	

Note. Standard deviations are in parenthesis.
[1] External impersonal is significantly greater than external personal at $p < 0.01$
[2] All external is significantly greater than all internal at $p < 0.001$

Competitive Intelligence Use by Source

Customers; competitors; newspapers and periodicals; and the Internet and extranets are the most frequently used CI sources when making strategic decisions. Company library; internal memo and circulars; subordinate staff; and internal reports are the least frequently used CI sources. The detailed information is shown in Table 3. Consistent with the source category of CI acquisition, the use of CI sources in strategic decision making is also grouped into four source categories – internal, external, personal, and impersonal. The means and their standard deviations are shown in Table 5. Contrary to CI acquisition, external personal is the most frequently used CI source category in making strategic decisions, followed by external impersonal and internal personal CI source categories. Internal impersonal is the least frequently used CI source category. The differences between the frequency of using external personal and external impersonal; internal personal and internal impersonal are statistically significant at $p < 0.001$. Thus, the differences between all internal and all external, and all personal and all impersonal are also significant.

Table 5: Use of CI in Strategic Decision Making by Source Category
(means and standard deviations)

	Personal	Impersonal	All External/Internal
External	3.81(0.624)[1]	3.69(0.793)[1]	3.74(0.649)[4]
Internal	3.37(0.743)[2]	3.11(0.759)[2]	3.22(0.730)[4]
All Personal/Impersonal	3.62(0.575)[3]	3.43(0.707)[3]	

Note. Standard deviations are in parenthesis.
[1] External personal is significantly greater than external impersonal at $p < 0.05$
[2] Internal personal is significantly greater than internal impersonal at $p < 0.001$
[3] All personal is significantly greater than all impersonal at $p < 0.001$
[4] All external is significantly greater than all internal at $p < 0.001$

DISCUSSION

Prior organisational information processing and environmental scanning studies found that customer and competitor sectors received more attention from managers than other environmental sectors (Adidam et al. 2008; Aguilar 1967; Auster and Choo 1994; Ebrahimi 2000; Ghoshal 1988; Jorosi 2008; Yunggar 2005). Economic sector also received a fair amount of attention among managers from the developing countries (Jorosi 2008; Sawyerr, Ebrahimi and Thibodeaux 2000). The dominance of the external impersonal sources in the top five list of CI acquisition sources can be explained by the fact that these sources are widely available and can be easily obtained with affordable cost. This finding is consistent with the study conducted in Malaysia (Yunggar 2005) as well as from the developing countries (Sawyerr 1993). Sawyerr provided the reason for more frequent use of external sources as there was lack of trust among individuals in organisations in developing countries. This may be somewhat true in the sample as none of the internal personal sources appeared in the top ten list. On the other hand, external personal sources such as customers and competitors are ranked third and fifth respectively. This finding may be explained by the frequent direct interaction between organisations and these sources on many occasions.

The strategic decision making activities rated by the respondents as important are those related to expansion of business operations and development of products and services. This can be due to the reason that most of the companies are still relatively young and adopting the expansion strategy instead of winding-up their business such as divestment. It is noteworthy to find out that diversification and merger and acquisition are rated low in their importance in contrast to the related decision such as strategic alliance which is rated as second highest in importance. The top two sources where decision making is based upon appear to be customers and competitors. This can be explained that managers prefer direct contact with personal sources rather than indirect contact through written sources when making strategic decisions. It is noteworthy that competitor is one of the most important sources of CI use in strategic decision making in Malaysian companies. This finding can be attributed by the fact that top management of Malaysian companies has opportunities to meet up with competitors for work and social occasions and exchanges of words may occur. Thus, to a certain extent, the information obtained from competitors is used in making strategic decisions. Besides, it is also noteworthy that none of internal sources appeared to be rated in the top half list.

The finding can be interpreted as when making strategic decisions, external personal sources like customers play a more important role as organisations may align their products and services as needed by the customers. Whereas, the importance of competitor as the utilization source for strategic decision making underscores the need for organisation to produce products and services which are competitive to that of their competitors. This finding is in line with that of Aguilar (1967), Sawyerr, Ebrahimi and Thibodeaux (2000) and Frishammer (2003).

The top five sources as listed in Table 6 where CI is used in strategic decision making are the same sources of CI acquisition. The only difference lies in the ranking of utilization frequency. Interestingly, the top two sources of CI acquisition are from the external impersonal sources while the top two sources of CI use are from the external personal category. This finding provides new insight to the literature that intelligence acquired from publicly available sources like the Internet may not be ultimately used in strategic decision making in the similar fashion. The results also can be interpreted that managers may not perceive the Internet as a trusted source and thus rely more heavily on the traditional sources of customers and competitors in their strategic decision making.

Table 6: Top Five Sources of CI

Rank	Source for CI Acquisition	Source for CI Use
1	Newspapers, periodicals	Customers
2	The Internet and extranets	Competitors
3	Customers	Newspapers, periodicals
4	Industry, trade associations	The Internet and extranets
5	Competitors	Industry, trade associations

CONCLUSION

The findings of this study imply that the common sources where CI can be acquired but relatively underutilized are the internal sources, be it personal or impersonal. Organisations should set up a formal CI unit to systematically organise the CI function. Internal employees may serve as the important source of intelligence for management should a systematic CI system is in place. For example, company staff are treated as important informal employee networks or communities for useful information and knowledge sharing (McDermott and Archibald 2010). Besides, trade show and events as an important source of intelligence especially concerning the technology intelligence has been proposed by Calof (2003). Managers should leverage the opportunities from international trade shows and events that are increasingly organised by the local participants in Malaysia. While the Internet has been a common tool for communication and commerce, it also serves as an important source for CI. For instance, CI can be acquired from competitors' product catalogs, user forums, commercial blogs, and government regulatory websites. From the library science perspective, corporate libraries or information centres may assist in fulfilling manager's intelligence needs by subscribing information resources such as financial databases, regulatory and industrial reports, and consulting and professional publications. Apart from that, librarians and information professionals who act as information boundary spanners may need to develop personal contact with managers to communicate their information through personal briefing sessions (Choo 1994).

This study suffers from several limitations. Firstly, when filling in the questionnaire, the respondents are required to relate to the specific decision they made in the past as no illustration of specific strategic decision making scenario is provided. Moreover, the study does not specify the decision making phase where CI is used. As a result, it may tax the memory of the respondents when filling in the questionnaire. Thus, the findings of this study merely provide general responses toward the strategic use of CI in organisation. For future studies, it is recommended that a scenario-based instrumentation be adopted when collecting responses relating to strategic decision making activities. This recommendation may be due to the reason that each strategic decision making requires different type and usage extent of CI. Secondly, even though majority of the respondents are mainly from the top management, some functional managers (34%) are also included in the sample. Managers from different functions may differ in their amount of CI acquisition and extent of CI use in different strategic decision making. As the functional managers may focus only on some particular sectors, some of the survey items may fall outside their task domain. It is recommended that future researchers focus on specific decision making activities of a particular business function and/or industry to enhance the external validity of the results. Lastly, this study provides insight on "what" and "how" managers acquire and use CI. However, the question of "why" a particular source of CI acquisition is utilized and not subsequently used in strategic decision making is not known. To answer the "why" question, future researchers may wish to examine a particular source, such as the Internet and extranets, in relation to acquisition and use in strategic decision making.

In conclusion, the level of CI practices undertaken in Malaysian companies is moderate. More than half of the surveyed companies have established a formal CI unit in their organisation, in which majority of them are practicing CI at an early (5 to 9 years) stage in a moderate scale (2 to 5 employees). Intelligence about customer and competitor are acquired most by managers. Meanwhile, CI is mostly used in making decisions concerning capacity expansion and new product/service development. On one hand, external impersonal sources are preferred in CI acquisition. On the other hand, external personal

sources are mostly used in strategic decision making process. In the age of globalization and intense competition, Malaysian companies are facing tough economic challenges. Thus, they should capitalize on formal CI function for new opportunities in response to the pressing needs of the contemporary business conditions.

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