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Intellectual Capital Disclosure and Initial Public Offerings: Evidence from Hong Kong

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This paper presents the findings of a study of the impact of intellectual capital disclosure on the initial public offering IPO) of shares listed on the Hong Kong Stock Exchange, which has been the largest IPO market in the world since 2009. One of the indicators of the success of an initial public offering is its subscription rate, which can be used as a proxy for the level of investor confidence in the stock being offered. The impact of intellectual capital disclosure, as part of voluntary disclosure, is examined by constructing a disclosure index. Correlation and regression analyses are employed to study its relationship with the subscription rate of an initial public offering. It is found that intellectual capital disclosure is a significant factor influencing the subscription rate, and that the extent of its impact depends on the type of information being disclosed. The evidence from Hong Kong contributes to the debate on the effect of voluntary disclosure on capital markets in general and of intellectual capital disclosure on IPOs in particular.

Keywords *Initial public offering, intellectual capital disclosure, subscription rate, voluntary disclosure.*

1. Introduction

Hong Kong was ranked the second largest initial public offering IPO) market in the world after London in 2006. In that year, a total of 62 IPOs were listed on the Hong Kong Stock Exchange HKEx), with 56 on the main board and six on the growth enterprise market GEM), which raised a total amount of about HK$334 billion US$43 billion). Mainland enterprises, which are made up of H shares and red chips, accounted for 88% of this amount despite comprising only 40% of the number of newly listed companies, according to the HKEx.

Hong Kong became the largest IPO market in the world in 2009. It has since maintained its position as the largest listing market by fund-raising size in the world with about HK$445 billion US$57 billion) raised in 2010, which is a record high. The trend looks set to continue, as shown in Table 1.

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Table 1 Number of initial public offerings in Hong Kong by stock type

Year	Main Board			Growth Enterprice Market GEM)		
	Number	Mainland	Percentage	Number	Mainland	Percentage
1997	82	30	36.6	N/A	N/A	N/A
1998	32	6	18.8	N/A	N/A	N/A
1999	31	7	22.6	7	1	13.3
2000	43	5	11.6	47	3	6.4
2001	31	6	19.4	57	5	8.8
2002	60	6	10.0	57	12	21.1
2003	46	12	26.1	27	8	29.6
2004	49	13	26.5	21	11	52.4
2005	57	13	22.8	10	3	30.0
2006	56	19	33.9	6	6	100.0
2007	82	16	19.5	2	0	0.0
2008	47	6	12.8	2	1	50.0
2009	68	8	11.8	5	1	20.0
2010	106	20	18.9	7	0	0.0

Source: Hong Kong Stock Exchange HKEx)..

A paper published by the Securities and Futures Commission SFC) of Hong Kong 2007) showed that in 2006, most IPOs performed well on their debut and remained strong thereafter, with an average gain of 26% on debut and 32% one month after listing. Relative to the performance of the Hang Seng Index HSI), the average gain was 28% higher one month after listing.

The SFC paper concluded that no direct relation exists between IPO performance and the size of the company or the sector to which it belongs. Nevertheless, the IPO performance of mainland Chinese enterprises was generally better than that of Hong Kong companies, reflecting strong investor interest in the stocks of the former and the robust economic growth of mainland China.

The excess returns on IPOs on their debut are often reported in the news headlines of the financial press in Hong Kong. Some hot IPOs are oversubscribed not merely by several but by several hundred times, which freezes up billions of investment dollars. One of the indicators of the success of an IPO is its subscription rate, which can be used as a proxy for the level of investor confidence in the stock being offered. Based on an information economics perspective, this paper studies the oversubscription phenomenon of Hong Kong IPOs by examining their level of intellectual capital disclosure and various corporate factors that influence the disclosure decision.

Before an IPO can be listed on the HKEx, a company prospectus, which comprises both financial and non-financial information, must be filed with the SFC as part of the registration statement. It provides investors with pertinent information including descriptions of the company's business, vision and mission, business strategies, corporate structure, directors and officers, financial statements, and other material information. The prospectus is presumed to disclose reliable information because of legal liability regarding corporate achievements, skills, and growth potential. IPOs increasingly disclose voluntary information, such as intellectual capital, in their prospectuses to attract potential investors.

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Because of its voluntary nature, intellectual capital disclosure by IPOs is not regulated. Companies can decide both the type and the amount of intellectual capital information made public. The term "intellectual capital" collectively refers to all of the intangible resources that determine the value and competitiveness of a company. It constitutes the knowledge resources, in the form of employees, customers, processes, and technologies, which the company can mobilize in its value creation processes. Intellectual capital disclosure often includes voluntary non-financial information such as staff turnover and job satisfaction rates, in-service training, turnover split on customers, customer satisfaction rates, and precision of supply Bukh et al., 2001; Mouritsen et al., 2001).

An IPO prospectus discloses the company's financial capability, performance, operation, skills, and resources to prove its continuity and its ability to increase shareholder wealth. Mather et al. 2000) argued that management has incentives to present the company in the best position to maximize the proceeds of the share issue. Additional relevant non-financial information is expected to lower the cost of equity capital because an increased level of disclosure lowers the level of uncertainty of the precise valuation of the company Botosan, 1997; Verrecchia, 2001). The disclosure of voluntary information such as intellectual capital is expected to reduce information asymmetry, enhance stock market liquidity, and increase demand for the company's shares Graham et al., 2005; Peterson & Plenborg, 2006).

Bukh et al. 2005) analyzed the voluntary disclosure of intellectual capital information in Danish IPO prospectuses from 1990 to 2001. They found that managerial ownership prior to the IPO and industry type affected the amount of voluntary intellectual capital disclosure, whereas company size and age did not affect it.

Rimmel et al. 2009) applied a disclosure index consisting of 78 items to quantify the amount of intellectual capital information included in the IPO prospectuses of Japanese companies from all stock exchange listings on the Japan Stock Exchange in 2003. Industry differences, managerial ownership, and company size were found to be nonsignificant factors in explaining the voluntary disclosure of information; company age, however, had a significant influence on the extent of disclosure.

This paper presents the findings of a study of the impact of intellectual capital disclosure on IPOs listed on the HKEx. First, it investigates the impact of intellectual capital disclosure in Hong Kong IPO prospectuses for three years from 2008 to 2010. Second, it examines the influence of industry differences, managerial ownership prior to the IPO, company size, and company age on the disclosure decision.

The remainder of this paper is structured as follows. The empirical model is discussed in section two, and the sample selection is described in section three. Section four provides the data analysis and empirical results. The final section presents the conclusion.

2. Empirical model

One of the indicators of success of an IPO is its subscription rate SUR), which is used as a proxy for the level of investor confidence in the stock being offered. The impact of intellectual capital disclosure, as part of voluntary disclosure, is examined by constructing a disclosure index. Correlation and regression analyses are employed to study its relationship with the subscription rate of an IPO and various corporate factors that influence the disclosure decision.

A disclosure index score DIS) was constructed by examining 78 intellectual capital disclosure items grouped into six dimensions: employees DEM), 27 items; customers DCU), 14 items; information technology DIT), five items; processes DPR), eight items; research and development DRD), nine items; and strategic statements DSS), 15 items Bukh et al., 2005; Rimmel et al., 2009).

Keyword searches were conducted in the soft copy of the IPO prospectuses using terms related to the intellectual capital disclosure items. A score of one was given for each item disclosed. If a company did not make any intellectual capital disclosures, then a score of zero was given. The disclosure index score of an IPO was the sum of these scores.

Regression analysis was performed to investigate 1) the effect of intellectual capital disclosure in an IPO prospectus on its subscription rate, and 2) the corporate factors that influence the level of intellectual capital disclosure being made. The following two multiple regression equations were used:

$$SUR_i = \alpha_0 + \beta_1 DIS_i + \beta_2 SIZE_i + \beta_3 OWN_i + \beta_4 IND_i + \beta_5 AGE_i + \varepsilon_i \quad (1a)$$

(+ve)

$$DIS_i = \alpha_0 + \beta_1 SIZE_i + \beta_2 OWN_i + \beta_3 IND_i + \beta_4 AGE_i + \varepsilon_i \quad (2a)$$

(?) (-ve) (+ve) (-ve)

where

SUR_i = Subscription rate of the IPO in times;
DIS_i = Disclosure index score - number of intellectual capital disclosure items for company i, which is a count variable ranging from 0 to 78;
$SIZE_i$ = Size of the company - natural logarithm of the number of employees;
OWN_i = Managerial ownership prior to the IPO - percentage of the issued capital;
IND_i = Industry dummy variable - equal to 0 if the company is in the low tech sector and 1 if it is in the high tech sector; and
AGE_i = Age dummy variable - equal to 0 if the company has been incorporated for 10 years or less and 1 if it has been incorporated for more than 10 years prior to the IPO.

The first null hypothesis is H_0: $\beta_1 = 0$ in regression equation 1a; that is, the level of intellectual capital disclosure as measured by the disclosure index score has no effect on the subscription rate of the IPO, which serves as a proxy for the level of investor confidence in the IPO. The expected sign of β_1 is positive, as an increase in the level of intellectual capital disclosure should lead to a reduction in the level of information asymmetry in the capital market, which in turn should increase the investor confidence level. All of the other independent variables serve as control variables.

The second null hypothesis is H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ in regression equation 2a; that is, the corporate factors of company size, managerial ownership prior to the IPO, industry differences, and company age have no influence on the level of intellectual capital disclosure in the IPO prospectus.

From an information economics perspective, there are economies of scale involved in providing information. Relative to a small company, not only does a large company have greater financial ability to provide more voluntary disclosures such as intellectual capital

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information to its investors, but it is also in a better position to reap the benefits of increased corporate transparency. Thus, company size SIZE) is expected to have a positive effect on the level of intellectual capital disclosure.

However, Bukh et al. 2005) presented the opposite argument, namely, that large companies, compared to small ones, seem less risky to investors and have better access to resources, and thus the latter have greater incentive to reduce uncertainty by disclosure. In support of their argument, Ahmed and Courtis 1999) and Adrem 1999) found that, all other things being equal, a small company should disclose more information and details on competitors compared to a large company.

Managerial ownership prior to the IPO OWN) was considered because agency problems can arise if a high proportion of shares is concentrated in the hands of majority shareholders. Ghazali and Weetman 2006) found that in highly concentrated companies, a conflict of interest exists between insiders, including controlling shareholders and managers, and outside investors. Some degree of managerial ownership in the company is a mechanism for ensuring the alignment of the interests of management and shareholders Demirag et al., 2000). According to O'Sullivan 2000), less disclosure by management is expected if the level of managerial ownership is high. Thus, OWN is expected to have negative effect on the level of intellectual capital disclosure.

The corporate factor of industry differences IND) has been used by Adrem 1999) and Cooke 1989) to explain differences in disclosure levels in annual reports, because disclosure norms vary across industries Gibbins et al., 1990). As intellectual capital is regarded as being especially important in high-tech industries, it is anticipated that IT and biotechnology companies will disclose more information than will their manufacturing and commercial counterparts. Thus, IND is expected to have a positive effect on the level of intellectual capital disclosure.

Company age AGE) is the last explanatory variable that was included in the regression model. Bukh et al. 2005) argued that company age is often seen as a proxy for risk because more established companies are considered less risky by investors. The extent of a company's disclosure is therefore expected to be related to how many years it has been in business. Kim and Ritter 1999) provided evidence that non-financial information is of greater importance in the valuation of younger companies because forecast earnings work better for assessing younger companies than historical earnings do. Thus, AGE is predicted to have a negative effect on the level of intellectual capital disclosure.

3. Sample Selection

This study randomly selected a sample of 60 Hong Kong IPOs listed from 2008 to 2010: 17 in 2008, 19 in 2009, and 24 in 2010. They have an average subscription rate of about 107.3 times, ranging from a low of 1.1 to a high of 722.0 times. The average price-to-book ratio PBR) of companies is 2.46 times, ranging from a low of 0.88 to a high of 6.23 times. Apparently, investors are very eager to buy the shares of these IPOs in Hong Kong.

Regarding performance after listing, the average annual holding gain AHG) is about 54%, ranging from a low of -75% to a high of 514%. The sample profile is displayed in Table 2.

Table 2 Sample selection

Industry	High/Low technology	Number of IPOs
IT and technology	High technology	13
Pharmaceutical and research	High technology	2
Production	Low technology	41
Trade and services	Low technology	4
Age prior to the IPO	Young/mature company	
10 years or less	Young company	21
More than 10 years	Mature company	39
Listing year		
2008		17
2009		19
2010		24
Total number of companies		60

Among the sample companies, 15 are in the high-tech IT and technology, pharmaceutical and research) and 45 are in the low-tech production, trade and services) sectors. Twenty-one are young companies incorporated for 10 years or less and 39 are mature companies incorporated for more than 10 years.

Table 3 Descriotive statistics

Variables	Mean	Minimum	Maximum	St Deviation
AHG	53.5	-75.3	513.9	103.4
SUR	107.286	1.070	722.000	160.717
PBR	2.463	0.875	6.232	1.032
DIS	27.767	19	37	5.140
DEM	9.300	5	12	1.533
DCU	3.267	0	6	1.413
DSS	7.233	2	11	2.174
DIT	0.600	0	4	0.960
DPR	3.683	2	6	0.873
DRD	3.683	0	7	2.236
SIZE	6.895	2.639	12.997	1.945
OWN	46.240	0	89.210	28.125
IND	0.250	0	1	0.437
AGE	0.650	0	1	0.481

AHG: Annual holding gain in percentage
SUR: Subscription rate of the IPO in times
PBR: Price-to-book ratio in times
DIS: Disclosure index score 78 items)
DEM: Disclosure on employees 27 items)
DCU: Disclosure on customers 14 items)
DSS: Disclosure of strategic statements 15 items)
DIT: Disclosure on IT 5 items)
DPR: Disclosure of processes 8 items)
DRD: Disclosure of R&D 9 items)
SIZE: Size of company - natural logarithm of the number of employees
OWN: Managerial ownership prior to the IPO - percentage of the issued capital
IND: Industry dummy variable 0 if low technology; 1 if high technology)
AGE: Age dummy variable 0 if incorporated for 10 years or less prior to the IPO; 1 if incorporated for more than 10 years)

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Table 3 shows the descriptive statistics of the disclosure index score and its component scores. The average disclosure index score is 27.8 items, or 35.6% of the total 78 disclosure items, while the average scores for the components are, in descending order of percentage, strategic statements 7.2 items, 48%), processes 3.7 items, 46.3%), research and development 3.7 items, 41.1%), employees 9.3 items, 34.4%), customers 3.3 items, 23.6%), and information technology 0.6 item, 12%).

In appendix, the details of the 78 intellectual capital disclosure items with the percentages of companies making disclosures is listed.

4. Empirical results

Table 3 provides the descriptive statistics for all of the variables, including the mean, minimum, maximum, and standard deviation. Table 4 shows the Pearson correlations. The subscription rate is highly positively correlated with the disclosure of strategic statements, while the disclosure index score is highly positively correlated with company size

Table 4 Pearson correlations

Variable	SUR	DIS	DEM	DCU	DSS	DIT	DPR	DRD	SIZE	OWN	IND	AGE
SUR	1.000	0.191	-0.161	0.089	0.271*	0.077	-0.005	0.199	-0.107	-0.049	-0.119	0.092
		0.144	0.219	0.499	0.036	0.560	0.971	0.128	0.414	0.712	0.366	0.485
DIS		1.000	0.506**	0.520**	0.703**	0.190	0.474**	0.673**	0.282*	0.195	-0.042	-0.171
			0.000			0.145	0.000	0.000	0.029	0.135	0.753	0.192
				0.000	0.000							
DEM			1.000	-0.022	0.121	0.256*	0.427**	0.097	0.046	0.110	-0.038	-0.085
				0.868	0.357	0.049	0.001	0.459	0.729	0.404	0.773	0.518
DCU				1.000	0.156	0.130	0.042	0.355**	0.087	0.162	0.137	-0.135
					0.234	0.322	0.749	0.005	0.509	0.217	0.295	0.305
DSS					1.000	-0.019	0.308*	0.350**	0.284*	0.059	-0.170	-0.131
						0.882	0.017	0.006	0.028	0.657	0.195	0.317
DIT						1.000	0.049	-0.249	0.177	-0.020	0.202	0.132
							0.713	0.055	0.176	0.879	0.121	0.314
DPR							1.000	0.061	-0.094	0.067	0.033	-0.309*
								0.645	0.476	0.609	0.800	0.016
DRD								1.0000	0.246	0.197	-0.091	-0.058
									0.058	0.132	0.489	0.662
SIZE									1.000	-0.166	-0.075	0.234
										0.206	0.569	0.072
OWN										1.000	-0.062	-0.115
											0.638	0.381
IND											1.000	-0.303*
												0.019
AGE												1.000

Notes: *Statistically significant at the five percent level two tailed).
**Statistically significant at the one percent level two tailed).

The first null hypothesis of H_0: $\beta_1 = 0$ in regression equation 1a is rejected at the five percent significance level. As $\beta_1 = 0.318$ is statistically and significantly different from zero, the level of intellectual capital disclosure, as measured by the DIS, is concluded to have a positive influence on the level of investor confidence in the IPO, as reflected by the SUR. This finding lends support to the argument for enhancing corporate transparency through an increased level of voluntary disclosure, such as intellectual capital disclosure.

Table 5 provides the regression results for model 1.

Table 5 Regression result for model 1

Variables	β	t-stat	Significance
Model 1a: $SUR_i = \alpha_0 + \beta_1 DIS_i + \beta_2 SIZE_i + \beta_3 OWN_i + \beta_4 IND_i + \beta_5 AGE_i + \varepsilon_i$.			
OLS regression: F5, 54) = 1.493, Sig. = 0.207, Adj. R^2 = 0.040, N = 60.			
DIS	0.318	2.238*	0.029
SIZE	-0.266	-1.861	0.068
OWN	-0.141	-1.049	0.299
IND	-0.084	-0.621	0.537
AGE	0.167	1.168	0.248
Model 1b: $SUR_i = \alpha_0 + \beta_1 DEM_i + \beta_2 DCU_i + \beta_3 DSS_i + \beta_4 DIT_i + \beta_5 DPR_i + \beta_6 DRD_i + \beta_7 SIZE_i + \beta_8 OWN_i + \beta_9 IND_i + \beta_{10} AGE_i + \varepsilon_i$.			
OLS regression: F10, 49) = 1.942, Sig. = 0.061, Adj. R^2 = 0.138, N = 60.			
DEM	-0.267	-1.860	0.069
DCU	-0.032	-0.235	0.815
DSS	0.318	2.191*	0.033
DIT	0.303	2.068*	0.044
DPR	-0.005	-0.036	0.972
DRD	0.320	2.073*	0.043
SIZE	-0.376	-2.651*	0.011
OWN	-0.144	-1.114	0.271
IND	-0.102	-0.747	0.459
AGE	0.123	0.864	0.392

*Statistically significant at the five percent level.
**Statistically significant at the one percent level.

Table 5 shows the results for model 1b, which is the same as 1a except that the DIS is replaced by the scores for disclosure on employees DEM), customers DCU), strategic statements DSS), information technology DIT), processes DPR), and research and development DRD). DSS is found to be the most prominent component, followed by DRD and DIT. The capital market appears to value the voluntary disclosure of strategic statements and information on research and development and information technology in IPO prospectuses.

Peterson and Plenborg 2006) reported that a clear statement of important strategic issues is a crucial aspect of corporate communications. It includes information that may promote a better understanding of the key factors contributing to the success of a company. Information about competitive issues and future prospects is generally perceived to be important by investors, and companies themselves benefit from providing additional information to their investors.

Ho and Chan 2009) came to a similar conclusion when they investigated the effect on stock performance of the voluntary disclosure by listed companies in Hong Kong of the financial statements of their corporate annual reports. Voluntary disclosure was found to have a significant positive effect on stock performance, with disclosure on strategic issues having the greatest influence, followed by that on financial and corporate social responsibility issues.

Table 6 provides the ordinary least squares OLS) and Poisson regression results for model 2.

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Table 6 Regression result for model 2

Variables	β	t-stat	Significance	t-stat	Significance
Model 2a: $DIS_i = \alpha_0 + \beta_1 SIZE_i + \beta_2 OWN_i + \beta_3 IND_i + \beta_4 AGE_i + \varepsilon_i$ N = 60).					
SIZE	0.332	2.904**	0.003	2.725**	0.006
OWN	0.023	1.800	0.072	1.690	0.091
IND	1.502	-0.604	0.546	-0.550	0.582
AGE	1.399	-1.952	0.051	-1.803	0.071
Regressions with DI components:					
Model 2b: $DEM_i = \alpha_0 + \beta_1 SIZE_i + \beta_2 OWN_i + \beta_3 IND_i + \beta_4 AGE_i + \varepsilon_i$.					
Model 2c: $DCU_i = \alpha_0 + \beta_1 SIZE_i + \beta_2 OWN_i + \beta_3 IND_i + \beta_4 AGE_i + \varepsilon_i$.					
Model 2d: $DSS_i = \alpha_0 + \beta_1 SIZE_i + \beta_2 OWN_i + \beta_3 IND_i + \beta_4 AGE_i + \varepsilon_i$.					
Model 2e: $DIT_i = \alpha_0 + \beta_1 SIZE_i + \beta_2 OWN_i + \beta_3 IND_i + \beta_4 AGE_i + \varepsilon_i$.					
Model 2f: $DPR_i = \alpha_0 + \beta_1 SIZE_i + \beta_2 OWN_i + \beta_3 IND_i + \beta_4 AGE_i + \varepsilon_i$.					
Model 2g: $DRD_i = \alpha_0 + \beta_1 SIZE_i + \beta_2 OWN_i + \beta_3 IND_i + \beta_4 AGE_i + \varepsilon_i$.					
t-stat	Model 2b:	Model 2c:	Model 2d:	Model 2e:	Model 2f:	Model 2g:
Sig.	DEM	DCU	DSS	DIT	DPR	DRD
Variables			OLS regressions			
SIZE	0.614	1.132	2.686**	1.227	-0.149	2.361**
	0.539	0.258	0.007	0.220	0.881	0.018
OWN	0.790	1.372	0.562	0.342	0.178	1.768
	0.429	0.170	0.574	0.732	0.859	0.077
IND	-0.415	0.925	-1.712	2.024*	-0.472	-0.710
	0.678	0.355	0.087	0.043	0.637	0.478
AGE	-0.765	-0.792	-2.037*	1.317	-2.317*	-0.971
	0.444	0.429	0.042	0.188	0.021	0.332
Variables			Poisson regressions			
SIZE	0.318	0.907	2.059*	1.361	-0.067	2.751**
	0.751	0.365	0.040	0.174	0.947	0.006
OWN	0.408	1.084	0.490	0.448	0.080	2.115*
	0.683	0.278	0.624	0.654	0.936	0.034
IND	-0.213	0.710	-1.296	2.424*	-0.209	-0.829
	0.831	0.478	0.195	0.015	0.835	0.407
AGE	-0.395	-0.641	-1.567	1.537	-1.032	-1.196
	0.693	0.522	0.117	0.124	0.302	0.232

*Statistically significant at the five percent level;
**statistically significant at the one percent level.

The corporate factors of company size SIZE), managerial ownership prior to the IPO OWN), industry differences IND), and company age AGE) were regressed against the DIS in model 2a and its component disclosures for DEM, DCU, DSS, DIT, DPR, and DRD in models 2b to 2g, respectively.

The second null hypothesis of H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ in regression equation 2a of DIS, 2d of DSS, and 2g of DRD is rejected for $\beta_1 = 0$ at the one percent significance level. Company size appears to be the dominant corporate factor in explaining the level of intellectual capital disclosure, in particular, strategic statements, followed by research and development. These positive results support the information economics perspective of voluntary disclosure.

However, there are no conclusive results of the effect of the other three corporate factors, OWN, IND, and AGE, on the level of intellectual capital disclosure, except for IND in model 2e of DIT. It is intuitively appealing that companies in the high-tech sector tend to disclose more information related to information technology.

5. Conclusion

The primary objective of this study was to investigate the effect of the voluntary disclosure of intellectual capital information in the prospectus of an IPO on its subscription rate among companies listed on the Hong Kong Stock Exchange. Consistent with the full disclosure prediction of agency theory Healey & Palepu, 1993), the empirical results of this study provide strong evidence that intellectual capital disclosure has a significant and positive influence on the level of investor confidence in the IPO, with the ranking order of component disclosures being strategic statements, research and development, and information technology.

In contrast to prior Danish and Japanese studies Bukh et al., 2005; Rimmel et al., 2009), this study finds that company size is the dominant corporate factor in determining the level of intellectual capital disclosure made in an IPO prospectus, possibly due to the cost effectiveness enjoyed by large Hong Kong companies in providing information. Because of the voluntary nature of intellectual capital disclosure, companies that provide additional information must be able to justify doing so on a cost-benefit basis.

In addition, this study does not find support for the effect of three other corporate factors, managerial ownership prior to the IPO, industry differences, and company age, on the disclosure decision. This result also varies from that of prior studies in other regions. These divergent empirical results suggest a possible regional effect on the disclosure decision, which is well worth investigation in future research.

In conclusion, the findings of this study lend support to the argument for enhancing corporate transparency through an increased level of disclosure Akerlof, 1970). However, the mixed results across studies indicate the yet limited understanding of the factors that determine the disclosure decision.

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Appendix

Appedix 1 Intellectual capital disclosure items

Type of disclosure	Percentage of companies making the disclosure
A Employees DEM: 27 items	34.4
A1 - Staff breakdown by age	0.0
A2 - Staff breakdown by seniority	1.7
A3 - Staff breakdown by gender	0.0
A4 - Staff breakdown by nationality	5.0
A5 - Staff breakdown by department	10.0
A6 - Staff breakdown by job function	76.7
A7 - Staff breakdown by level of education	1.7
A8 - Rate of staff turnover	3.3
A9 - Comments on changes in number of employees	8.3
A10 - Staff health and safety	71.7
A11 - Education and training expenses/number of employees	1.7
A12 - Staff interview	0.0
A13 - Policy statements on competence development	90.0
A14 - Description of competence development program and activities	81.7
A15 - Educating and training expenses	6.7
A16 - Absentee rates	1.7
A17 - Employee expenses/number of employees	95.0
A18 - Recruitment policies	8.3
A19 - HRM department, division or function	13.3
A20 - Job rotation opportunities	0.0
A21 - Career opportunities	26.7
A22 - Remuneration and incentive systems	73.3
A23 - Pensions	90.0
A24 - Insurance policies	88.3
A25 - Statements of dependence on key personnel	76.7
A26 - Revenues/employee	98.3
A27 - Value added/employee	0.0
B Customers DCU: 14 items	23.3
B1 - Number of customers	8.3
B2 - Sales breakdown by customer	3.3
B3 - Annual sales per segment or product	91.7
B4 - Average customer size	0.0
B5 - Dependence on key customers	20.0
B6 - Description of customer involvement	0.0
B7 - Description of customer relations	70.0
B8 - Education/training of customers	13.3
B9 - Customers/employees	0.0
B10 - Value added per customer or segment	6.7
B11 - Market share percentage	50.0
B12 - Relative market share	35.0
B13 - Market share, breakdown by country/segment/product	25.0
B14 - Repurchase	3.3
C IT DIT: 5 items	12.0
C1 - Description of and reason for investment in IT	18.3
C2 - IT systems	15.0
C3 - Software assets	0.0
C4 - Description of IT facilities	15.0
C5 - IT expenses	11.7
D Processes DPR: 8 items	46.0

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D1 - Efforts related to the working environment	31.7
D2 - Information and communication within the company	8.3
D3 - Working from home	0.0
D4 - Internal sharing of knowledge and information	38.3
D5 - Measures of internal or external failure	91.7
D6 - External sharing of knowledge and information	13.3
D7 - Fringe benefits and company social programs	90.0
D8 - Environmental approvals and statements/policies	95.0
E Research and development DRD: 9 items	40.9
E1 - Statements of policies, strategies, and/or objectives related to R&D activities	71.7
E2 - R&D expenses	58.3
E3 - R&D expenses/sales	0.0
E4 - R&D invested in basic research	16.7
E5 - R&D invested in product design/development	53.3
E6 - Future prospects regarding R&D	23.3
E7 - Details of company patents	65.0
E8 - Number of patents and licenses, etc.	48.3
E9 - Patents pending	31.7
F Strategic statements DSS: 15 items	48.2
F1 - Description of new production technology	33.3
F2 - Statements of corporate quality performance	90.0
F3 - Strategic alliances	55.0
F4 - Objectives and reasons for strategic alliances	18.3
F5 - Comments on the effects of the strategic alliances	16.7
F6 - Description of the network of suppliers and distributors	61.7
F7 - Image and brand statements	90.0
F8 - Corporate culture statements	26.7
F9 - Best practices	26.7
F10 - Organizational structure	98.3
F11 - Utilization of energy, raw materials, and other input goods	70.0
F12 - Investment in the environment	68.3
F13 - Description of community involvement	3.3
F14 - Information on corporate social responsibility strategies and objectives	8.3
F15 - Description of employee contracts/contractual issues	56.7