Investor Relations in New Media Era: A Content Analysis of 127 US and HK Corporate Websites

By

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Abstract

This research compares the pattern of adopting new media in IR in Hong Kong and the United States. A content analysis of 127 company web sites was conducted. Out of the 127 company, 91 were selected from the list of S&P 500 index and 36 were selected from the constituents of Hang Seng Composite Index, representing the US and HK markets respectively. Results revealed that

(1) US companies have a higher degree of using new media in IR;

(2) Tech companies have a higher degree of new media adoption in IR than non-tech companies in US, but not HK

(3) Industry is a predictor of the new media adoption in US but not in HK;

(4) Company size did not affect a company in adopting new media in IR in US, but large-caps in HK tend to have a higher degree of new media adoption;

(5) Stock activity is no relation to the IR practice with new media.

1. Introduction

Investor is one of most significant audiences of a company and thus maintaining an outstanding investor relations (IR) is crucial (Witmer, 2000:118). The fundamental principle of investor relations is that no individual or institution should invest in the securities of a company unless he or she is fully informed about the current business and its future prospects. As A.R. Roalman stated in his *Investor Relations Handbook*, “more investors’ willingness to invest in a corporation is influenced by their trust in its management” (Dilenschneider, 1996:113). That’s why investor relation constitutes the core element of PR strategies of listed companies.

Conceptually, investor relations is the means whereby listed companies maintain a dialogue with existing shareholders and potential investors. Its purpose is to present an accurate picture of corporate performance and prospects, thus allowing the investment community, through an informed market, to determine a realistic share price (Witmer, 2000:118). In this sense, investor relations can have a positive impact on a company’s market value and cost of capital relative to its industry sector and the overall economic climate. In practice, the general tasks of investor relations officers (IROs) include preparing financial reports, news release, conference calls and handling enquiry from shareholders, potential investors and the media. In large corporate, senior IR professionals are even employed to formulate its own IR strategy and conduct global IR campaign.

With the advance of technology, it is always said we are in the era of new media. In fact, there is a growing trend of using Internet as a tool for investor

relations in the last five years and thus gives rise to the idea of “online investor relations (online IR)”. New technology changes the practice of IR, but the goal of IR remains the same: trust-building. Investors’ trust to a company is the result of long-term actions by the corporation to provide factual financial information in proper perspective. In this sense, adoption of new media by IROs helps disseminate company information to and communicate with shareholders, potential investors and the media.

IR has been well-developed in the United States. Consistent to its leading position in the global financial markets, United States leads the development of investor relations in the world. It serves as a benchmark. Even the United Kingdom had no idea of Investor relations until 1980s, ten years after it appeared in the United States. Hong Kong, as a major international financial center, is characterized by a high degree of liquidity and operated under transparent regulations. Investor relations should become very important to the public companies in Hong Kong. Thus, it is expected that Hong Kong will follow the US’s suit in applying new media tools to their IR strategy.

The aim of this research is to compare the pattern of adopting new media in IR in Hong Kong and US. Whether the new media adoption of a company will be affected by the factor of locality, tech-relatedness, industry, company size and stock activity were examined. The focus of this research is to compare the company websites of local and US listed companies in regard to the availability of new media tools on their websites.

Against the background of such discussions, this article first presents a review of the development of IR and the recent position of IR with new media.

Then, the research questions and the operational definitions of key variables are discussed. Also, the methodology will be addressed. Finally, the findings of the availability of new media features will be presented and explained.

2. Literature Review

2.1) Rise of Online Investor Relations

The emergence of online investor relations is the result of convergence of two elements: financial regulations and technology.

In describing the trend of investor relations, Cossette (2002) pointed out the financial regulations since 1933 paved the way for the development of investor relations. Stock market crash in 1929 revealed the lack of credibility and standardization of financial reporting. Typical offering circulars were blamed for inadequate financial information. As a result, the Securities Act was enacted in 1933 to ask public companies to provide investors with material information concerning securities offered for public sale and to prevent misrepresentation, deceit and other fraud in the sale of securities. The new regulation urged the companies to spend much more resources on handling the disclosure of financial information and formulated the primitive function of investor relations (Cossette, 2002).

Further legislation in 1934, 1982, 1995 and 2000 worked together to confine the companies in disclosing company's information. Top management has gradually learned the importance of communication with investor. In 1970s, the profession of IR emerged in the United States and spread to Europe ten years later (IRS, 2001). Nowadays, in large companies, senior full-time IR executives are employed to handle investor relations work such as arranging the annual communication programme, managing day-to-day activities and handling the communication load. In his survey on the trends and use of technology in IR, Louis Thompson, CEO of National

Investor Relations Institute, found that 48% of the IR officers said top company officers are “highly influential” in their investor communications process in 2001 (up from 38% in 2000 and 35% in 1996) (Thompson, 2002).

In the past eight years, technology reformulated the practice of investor relations. Before Internet technology, IROs disclosed corporate news stories over private channels accessible only to privileged parties with paid subscriptions. Invitation list to quarterly earnings teleconferences were limited to an elite clique of financial analysts, portfolio managers and investment bankers. News dissemination options were limited and costly. Today the news is truly new and the investment playing field is level by the invention of Internet. All it takes is just a few clicks from a computer mouse in the IR department to electronically a news release directly, verbatim and almost instantaneously to a huge audience. Venerated disclosure channels, financial news media, sophisticated money managers and the wired public around the world all have equal and virtually simultaneous access to the news. From an IR perspective, it is all about making full and complete disclosure of financial news to all interested parties. It is also about giving everyone an equal opportunity learn about and act on the news (Pownall, 2002).

The adoption of Internet as a tool for IR becomes even critical with the new Regulation Financial Disclosure (Regulation FD) enacted by the Security Exchange Commission on October 23, 2002. In response to the problem that some companies gave selective disclosure of information to particular parties such as security analysts, the Regulation FD confined that companies must publicly disclose any material nonpublic information provided to favored securities analysts and portfolio managers. Now the web becomes even

more important in the disclosure process. CEOs still brief their financial analysts, but interested investors can now listen to via phone or webcast. That which was once whispered confidentially to analysts is now part of public communication and calls become more detailed. As noted by Micheal Edwards, global sales director at conferencing provider Genesys, “web streaming technology is a cost-effective method to comply with Regulation FD” (Cossette, 2002). According to Louis Thomson’s findings, the use of webcasting quarterly conference call has risen consistently over the last five years, from 80% in 1996 to 88% in 2000 and reached 92% in 2001. He attributed the increase to the impact of Regulation FD (Thomason, 2002).

2.2) Significance of online IR

The advancement of new technologies has changed the influence of power in the stock market. In the past, institutional investors and financial analysts dominated the markets. Every listed company treasures the institutional investors and the financial analysts because they are key players in the market who can cause stock price fluctuation (Theaker, 2001). CEOs are eager to maintain a good communication with them so as to provide sufficient information and services to them to give a favourable assessment to the companies. That’s why the IR strategy of most listed companies targeted on these two groups of audience.

However, with the invention of electronic bulletin and Internet, the game of rule has changed. New technologies provide cheap but effective tool for disseminating information. The popular stock message boards such as

Yahoo! Finance, Raging Bull, Motley Fools, etc, showed the power of individual investors. Rumour spread through this kind of community. Stock price of Sun Microsystems dropped 10% in 5 minutes when there was a rumour-that its CEO was going to leave the company-transmitting in its message board in Yahoo! Finance last year. Thus, nowadays individual shareholders as well as potential investors are also key audience to the IR of the listed company.

Obviously, the characteristics of these audiences were that they are familiar with Internet. They seek investment information on the net and expressed their views among the online community. Their views are further shared with and affect other investors and this in turn may lead to misleading assessment of the stocks. To response to this trend, every listed company is supposed to develop their online IR strategy. Company without even an IR section in their corporate website will experience the adverse effects of mis-informed individual shareholders (Heath, 2001).

Going with the global trend, the stock market is being globalized. With the advancement of Internet, investors can invest in not only local markets but also overseas market. That's why it becomes crucial for listed companies to develop their online IR strategy so as to cater the need of the international investors. In fact, international investors highly rely on the Internet for information in assessing the value of a company. Again, failure to maintain effective investor relations online with investors overseas may cause false assessment of the company and resulted in a dropping stock price.

It is generally agreed that online IR is well-developed in the US and many US companies are enjoying the benefit of developing IR online. Yet IR

specialist Richard Carpenter commented that Hong Kong IROs did not understand the importance of developing online IR. Even though they would like to build up their IR online, they don't know what to do because the picture of online IR in Hong Kong is not clear (Carpenter, 2001). In this sense, this study of the adoption of new media in IR in Hong Kong and US is meaningful and significant:

a) it tells the managers in HK listed company, compared with the US, the position of their IR strategy and what should be improved;

b) it tells the online IR-service providers the pattern of new media adoption in IR in Hong Kong and helps these services providers to formulate their marketing plan; and

c) it tells the IR executives and corporate site designers what should be generally included and improved in their IR strategies.

2.3) Previous Studies

The use of new media in investor relations is highly concerned by the IR industry. Most of the studies on the use of new media in investor relations were conducted by the associations of the IR practitioners. National Investor Relations Institute (NIRI) conducted surveys on the "growing use of communications technologies in the practice of Investor relations" in 1996, 2000 and 2001 respectively, in which more than 200 of their members were asked for the availability of corporate web site, email and conference call in their companies. Accordingly, use of corporate web site, email and conference call has gained popularity.

Besides the availability of the new media features on the corporate web site, the attitude of IROs towards the use of new media is also a major concern in the industry. The consultancy NewsDirections, conducted a survey on the IROs' use of Internet in the US in 1998. The survey found that 98% of IR departments have Internet access and 75% of the companies had websites to support their IR activities (NewsDirections, 1999). Consistently, in the 2001 survey of NIRI mentioned above, 67% believed email is a valuable tool for their company's IR program (Thomson, 2002).

These studies revealed that the use of new media in IR has become an integral part for most companies in the United States. How about the other countries?

A survey of 216 Polish listed companies was conducted in 2001. It is found that 96% had their own web sites and 67% had an IR section in the web site (Digital Strategies Group, 2001). The German financial magazine "Capital" looked at the web sites of the top 150 German listed companies and found that most German companies had come to recognize that the Internet is an important platform for investor relations (Stuttgart, 2000).

On the whole, most of the studies concluded that new media has been widely adopted in investor relations as it is found nearly all companies had their own web sites. However, the picture is still unclear. First, the degree of adoption is not comparable. Studies were conducted locally. We cannot compare the new media adoption rate between countries. Second, new media adoption is measured generally. Yet if Company A is found to have a higher degree of new media adoption in IR than Company B, there may be some reasons to tell. Does the difference in industry group matter? Does

the company size matter? Does the activeness of the company stock matter? All these are interesting factors that have been ignored by most researchers of investor relations. From the perspective of IR service providers, these are very valuable data for them who can formulate their business plan and identify target clients based on the factors affecting a company in adopting online service in their IR practices.

This research tries to fill in part of the research gap. To gain more insight into these correlations and to obtain systematic data on new media adoption in IR by US and HK companies, a content analysis of 127 companies from US and HK was conducted.

3. Theoretical Framework

3.1) Diffusion of Innovations

In analyzing the pattern of new media adoption in IR, diffusion of innovations was applied in this research. It provided a theoretical framework for interpreting the “adoption” or “not-adoption” of new media in IR among the listed companies in US and HK. According to Everett (1995), there are five attributes which affect the rate of adoption of innovations: relative advantage, compatibility, complexity, trialability and observability.

Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes. The degree of relative advantage is often expressed in economic profitability. Economic profitability refer to that some new products involve a series of successful technological improvements that result in a reduced cost of production for the product, leading to a lower selling price to consumers (Everett, 1995). In this sense, adoption of webcast in promoting IR may be resulted from a reduction of cost. The cost of a webcast has dropped from HK$80,000 three years ago to HK$20,000 now.

Compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters. One indication of the compatibility of an innovation is the degree to which it meets a need felt by the clients (Everett, 1995). In this sense, companies may adopt new media in IR if they perceived that developing online IR is consistent with their need.

Complexity is the degree to which an innovation is perceived as relatively difficult to understand and use. From this point of view, a listed company is

more likely to develop their IR online if they perceived that new media is easy to use.

Trialability is the degree to which an innovation may be experimented with on a limited basis. New ideas that can be tried on the installment plan will generally be adopted more rapidly than innovations that are not divisible. An innovation that is trialable is less uncertain for the adoptor. Observability is the degree to which the results of an innovation are visible to others (Everett, 1995) Thus, a listed company is more likely to develop their IR online if they found that new media is trialable or/and its effect is visible.

3.2) Hypotheses

In the light of the previous discussion, this research asks: to what extent do the listed companies adopt new media in their investor relations practice?

An answer to this question does not allow conclusions about exactly how shareholders and analysts use these tools. The main goal was to determine how many features are provided at all. Five more specific questions were created:

Q1: Is there a difference in adopting new media between HK and US listed companies?

Q2: Is there a difference in adopting new media between tech and non-tech companies?

Q3: Is there a difference in adopting new media among companies in respect to their industry sector?

Q4: Is there a difference in adopting new media among companies in respect to their company size?

Q5: Is there a difference in adopting new media among companies in respect to their stock activity?

3.2) Operational Definitions

λ Adoption of New Media Technology

On the whole, the adoption of new media in this research refers to the use of Internet. Operationally, the degree of adoption of new media is measured by the availability of 15 features through the web. In discussing how to build up investor relations with the new media, Witner, Middleberg and Haig suggested the application of certain features in the IR web sites (Witner, 2000; Middleberg, 2001; Haig, 2000). The 15 features used in this study are mostly common features suggested by the three PR specialists. The 15 features include:

1. Corporate web site
2. IR section on Web page
3. Stock quote
4. News
5. Email news alert
6. Annual report
7. Interactive annual report
8. Webcast
9. Proxy statement
10. Online proxy voting
11. Event calendar
12. IR FAQs
13. IR contact email/ enquiry post-form

14. Printed Material Request
15. IR search engine

These are the core IR-related features in a company web site (Note: detail explanations of each of these features are discussed in Appendix III). The more features the web site offers, the higher degree of new media adoption in IR.

λ HK and US Listed Companies

US listed companies for this research are selected from the pool of S&P 500 index while HK listed companies are from the pool of Hang Seng Composite Index. The S&P 500 and the Hang Seng Composite Index are representatives of the two markets respectively, in term of market capitalization and equity performance.

The S&P 500 Index consists of 500 stocks chosen for market size, liquidity, and industry group representation. It is a market-value weighted index (stock price times number of shares outstanding), with each stock's weight in the Index proportionate to its market value. The "500" is one of the most widely used benchmarks of U.S. equity performance (Standard and Poor, 2002).

The Hang Seng Composite Index Series, launched on 3 October 2001, is aimed at providing a comprehensive benchmark of the performance of the Hong Kong stock market. Comprising the top 200 listed companies in terms of market capitalization, the Hang Seng Composite Index aims to cover 95% of the market capitalization of stocks listed on the Main Board of the Stock

Exchange of Hong Kong and there are currently 200 constituent stocks (HSI Services Ltd, 2002).

λ Industry Group

The 127 companies selected for evaluation. As shown on Table 1a, S&P 500 comprises 23 industry groups and companies in Hang Seng Composite Index are from 9 industry groups.

S&P 500	Hang Seng Composite Index
Automobiles & Components	Oil & Resources
Bank	Industrial Goods
Capital Goods	Consumer Goods
Commercial Services & Supplies	Services
Consumer Durables & Apparel	Utilities
Diversified Financials	Financials
Energy	Properties & Construction
Food & Drug Retailing	Information Technology
Food & Beverage & Tobacco	Conglomerates
Health Care Equipment & Services	
Hotels, Restaurants & Leisure	
Household & Personal Product	
Insurance	
Materials	
Media	
Pharmaceuticals & Biotechnology	
Real Estate	
Retailing	
Software &Services	
Technology Hardware & Equipment	
Telecommunication Services	
Transportation	
Utilities	

Table 1a) Classification by Industry

In order to generate comparable results of US and HK, the above industry groups were clustered into 6 sectors respectively. 5 out of the 6 are the same: “consumers”, “industrials”, “financials”, “utilities” and “information technology”. S&P 500 has the sixth group, “health care” while that of Hang Seng Composite Index is “conglomerates”. The classification is a based on the economic sectors defined by the S&P 500 index. Table 1b showed the re-clustered industry sectors in the two markets.

	S&P 500	Hang Seng Composite Index
Consumer	Automobiles & Components	Consumer Goods
	Consumer Durables & Apparel	Services
	Food & Beverage & Tobacco	
	Food & Drug Retailing	
	Hotels, Restaurants & Leisure	
	Household & Personal Product	
	Media	
	Retailing	
Industrials	Capital Goods	Industrial Goods
	Commercial Services & Supplies	
	Materials	
	Transportations	
Financials	Bank	Financials
	Diversified Financials	Properties & Construction
	Insurance	
	Real Estate	
Utilities	Energy	Oil & Resources
	Utilities	Utilities
Information Technology	Software & Services	Information Technology
	Technology Hardware & Equipment	
	Telecommunication Services	
Health Care	Health Care Equipment & Services	
	Pharmaceuticals & Biotechnology	
Conglomerates		Conglomerates

Table 1b) Re-cluster industry sectors

λ Tech and Non-tech companies

Further to the classification by industry, the companies were also divided into two groups: tech and non-tech companies. To be consistent with the industry grouping, the classification is based on the industry nature. The division of tech and non-tech company is listed on Table 2.

	S&P 500	Hang Seng Composite Index
Tech Companies	Software & Services	Information Technology
	Technology Hardware & Equipment	
	Telecommunication Services	
Non-tech companies	Automobiles & Components	Oil & Resources
	Bank	Industrial Goods
	Capital Goods	Consumer Goods
	Commercial Services & Supplies	Services
	Consumer Durables & Apparel	Utilities
	Diversified Financials	Financials
	Energy	Properties & Construction
	Food & Drug Retailing	Conglomerates
	Food & Beverage & Tobacco	
	Health Care Equipment & Services	
	Hotels, Restaurants & Leisure	
	Household & Personal Product	
	Insurance	
	Materials	
	Media	
	Real Estate	
	Retailing	
	Utilities	
	Pharmaceuticals & Biotechnology	
	Real Estate	
	Retailing	
	Utilities	

Table 2) Classification of Tech and Non-tech Companies

λ Company Size

The size of a company is usually measured by the market capitalization (or "cap"). The bigger the market cap, the bigger the company. Market capitalization of a stock is simply the market value of all outstanding shares and is computed by multiplying the market price by the number of outstanding shares. For example, a publicly held company with 10 million shares outstanding that trade at US$20 each would have a market capitalization of 200 million US$. The value for a stock's "cap" is used to segment the universe of stocks into various chunks, including large-cap, mid-cap, small-cap, etc. However, there are no hard-and-fast rules that define precisely what it means for a company to be in one of these categories (Invest-faq.com, 1997).

Market capitalization of the US companies selected was extracted from the data provided by Hoover's Inc, one of the reputable stock information providers. For the HK companies, the data of market capitalization are extracted from the official web site of the Hong Kong Exchange and Clearing Limited (HKEx).

λ Stock Activity

The activity of a stock is usually measured by its trading volume, i.e. the number of share traded. To have a fair measurement, the average trading volume in the past 13 weeks of the company is adopted. The 13-week average trading volume of US companies are provided by Hoover's Inc. while

the data for HK companies are extracted from the website of Yahoo! Finance Hong Kong.

4. Methodology

As mentioned above, this paper tries to examine the extent of the new media adoption of listed companies in US and HK with quantitative content analysis. In this research, the features provided on the corporate web site serves as the source of information for examination.

4.1 Sampling

127 corporate web sites were examined by a content analysis from March 5 to April 20, 2002. The average browsing time for each web site is about 35 minutes. Companies were selected from the company pools of S&P 500 and Hang Seng Composite Index by a stratified sample. The population was divided by industry group, from which simple random samples are then taken. For each industry group, four companies were selected randomly. As the S&P 500 comprises 23 industry groups, 91 companies (Note: one of the groups, "Real Estate" includes 3 companies only, the total number of companies selected is 23 x 4 –1 = 91) were selected to represent the US market. Likewise, 36 companies (i.e., 9 x 4 = 36) were selected from the 9 industry groups of the Hang Seng Composite Index to represent the HK market. The sampling occupies18% of the study pools.

4.2) Coding

After a pretest with 20 randomly selected corporate web sites, the final version of a coding scheme was prepared along with coding guidelines. The

unit of analysis was each corporate web site. It was not required to read through all the text. The study focused on the availability of the 15 features discussed above. A sample of the coding sheet is provided in Appendix I. "1" represents the presence of the feature while "0" represents no such feature in the web site. Applying this scheme, the index resulted in a scale ranging from a maximum of 15 to a minimum of 0 points. The higher a company scored, the higher degree of new media adoption it has.

Coding was performed by the author and an intercoder reliability test was conducted to check for consistency across the coding process. Accordingly, 15 sites were re-coded and the result Kappa = 0.98.

4.3) Statistical Tools

One-tailed t-tests, ANOVA and Pearson's r correlation coefficient were applied. One-tailed t-tests were used to test the significance of the difference of new media adoption between (Q1) US and HK; and (Q2) tech and non-tech companies. ANOVA was used to test the significance of (Q3) the difference of new media adoption between industries. Pearson's correlation coefficient was calculated to find out the correlations (Q4) between new media adoption and company size; (Q5) between new media adoption and stock activity.

5. Findings

5.1) US vs. HK

Q1: Is there a difference in adopting new media between HK and US listed companies?

As shown on Table 3, US companies has a higher degree of new media adoption in investor relations than HK companies. Gillette, McGraw Hill and AT&T got the highest score, 14, among the US companies while the highest score among HK companies is 11 of HSBC. Likewise, the lowest score of HK companies (2) is lower than the lowest score of US companies (4). The average score of the US companies is 10.396 while that of HK companies is 5.594. In this sense, out of the 15 features, US companies offers more than 10 in average while HK companies includes only 5 in their web site.

	Highest Score	Lowest Score	Mean Score
US	14 (Gillette, McGraw-Hill, AT&T)	4 (Fifth Third Bancorp, Loews Corp, PPG Industries)	10.396
HK	11 (HSBC)	2 (Jiangxi Copper)	5.594

Table 3 Score of New Media Adoption in IR: HK vs. US

To test the significance of the difference, a one-tailed t-test was conducted. The hypotheses are set as follows:

Null hypothesis: *US companies has no difference in degree of new media adoption than HK companies.*

Research hypothesis: *US companies has a higher degree of new media adoption than HK companies.*

The obtained value of t was 10.73 while the table t was 1.65 (at 0.05 significance level). Thus the research hypothesis is accepted. Statistically, adoption of new media technology in building investor relations in US is higher than that in HK. In this sense, HK is lagging behind US in implementing online investor relations.

Reasons for such difference may include the following points. First, investor relations is more emphasized in the United States. US public companies regard the usefulness on openness of information as a way to build up investor relations. It is the usual practice of public companies to disclose information. Besides, as mentioned above, the US Security and Exchange Commission gives clear rule and regulations on openness of information. It “requires public companies to disclose meaningful financial and other information to the public, which provides a common pool of knowledge for all investors to use to judge for themselves if a company's securities are a good investment.” (SEC 2002)

Besides, the adoption rate of Internet in US is high, people used to seek information online. In particular, online trading is prevailing in the US market. Investors, when trading online, will naturally search investor information online. Thus, the public companies in the US regard Internet as an effective and efficient channel to disclose their information to investors. To fulfill the need of investors, the companies tend to develop IR online. Compared with US, most investors in Hong Kong still rely on offline brokers for trading and traditional media (such as television, radio and newspaper) for investor information. Information disclosure through Internet may not be as effective and efficient as in the US. Hence, this may hinder the public companies from

throwing resources on developing investor relations online.

5.2) Tech vs. Non-tech

Q2: Is there a difference in adopting new media between tech and non-tech companies?

Compared with traditional industries, it is expected that technology companies should relatively rely more on Internet as a major communication tool. This should also apply to investor relations of tech companies. According to this assumption, it is expected that tech companies have a higher degree of new media adoption than non-tech companies.

As explained in the section of methodology, companies are divided into tech or non-tech by industry. Table 4 compared the mean scores of tech and non-tech companies in HK and US.

Market	Mean Score of IR adoption for tech companies	Mean Score of IR adoption for non-tech companies
US	11.92	10.16
HK	6	5.594

Table 4 Score of New Media Adoption for IR - Tech and non-tech companies

To test the significance of the difference, a one-tailed t-test was conducted. The hypotheses are set as follows:

Null hypothesis: *Tech companies have no difference in degree of new media adoption than non-tech companies.*

Research hypothesis: *Tech companies have a higher degree of new media adoption than non-tech companies.*

For US companies, the obtained value of t was 2.61 while the table t was

1.67 (at 0.05 significance level). Thus the research hypothesis is accepted. Statistically, Tech companies have a higher degree of new media adoption than non-tech companies in the US.

For HK companies, however, the obtained value of t was 0.64 while the table t was 1.69 (at 0.05 significance level). Thus the null hypothesis is accepted. Statistically, there is no difference between tech and non-tech companies in adopting new media in IR.

Again, the result of no difference between tech and non-tech companies in HK may be attributed to the small concern of investor relations in HK. As noted by Paul Marriage, executive director of investor relations agency Forrest International in Hong Kong, “some companies will have been put off IR in the short term with a ‘tried that, didn’t work’ attitude…There are many companies in the region that do a little investor relations very reluctantly. Free information flows are not as normal in this part of the world as in the US or UK”. (Carpenter 2000) Even tech companies did not see the advantages of developing online investor relations in HK.

On the other hand, number of tech companies in Hong Kong is too small. There are only 14 “information technology” companies in the Hang Seng Composite Index. While only 4 were selected for examination, it is difficult to reveal the actual effect of tech companies in the adoption of new media in investor relations in HK.

5.3) Difference by Industry

Q3: Is there a difference in adopting new media among companies in respect to their industry group?

Table 5 and Table 6 listed the mean scores of each industry of US and HK respectively. Accordingly, the mean scores of industry group in US ranges from 9.17 (Financials) to 11.92 (Information Technology), that in HK ranges from 4 (Industrial) to 6.125(Utilities).

Industry Sector	Mean score
Consumer	10.44
Industrials	9.69
Financials	9.17
Utilities	11.38
Information Technology	11.92
Health Care	11

Table 5 Score of New Media Adoption in IR –6 Industry Sectors in US

Industry Sector	Mean score
Consumer	5.75
Industrials	4
Financials	5.5
Utilities	6.125
Information Technology	6
Conglomerates	6

Table 6 Score of New Media Adoption in IR – 6 Industry Sectors in HK

To test the significance of the difference, ANOVA was applied. The

hypotheses are set as follows:

Null hypothesis: *There is no difference in adopting new media technology among companies in respect to their industry sector.*

Research hypothesis: *There is a difference in adopting new media technology among companies in respect to their industry sector.*

For US companies, the obtained F-ratio was 14.03 while the table F was 2.81 (at 0.05 significance level). Thus the research hypothesis is accepted. Statistically, industry sector does matter in affecting the adoption of new media technology for investor relations in the United States.

For HK companies, however, the obtained value of F-ratio was 0.6326 while the table t was 5.41 (at 0.05 significance level). Thus the null hypothesis is accepted. Statistically, there is no difference in adopting new media technology among companies in respect to their industry sector. Likewise, the most probable reason for the no difference among industry sector may be the little concern on investor relations in Hong Kong, which was discussed above.

Besides, the industry grouping in the Hang Seng Composite Index is too general that may flatten the impact of industry on a company's adoption of new media in investor relations. For examples, VTech and Quality Health Care Asia Limited belong to the "Consumer" but they do very different business: VTech is a manufacturer of telecommunication and electronic learning products, while Quality Heath Care provides medical services to consumers. While the former got 8 point out of 15, the latter got 4 only. Yet since they are classified into the same group, the effect of industry grouping may be offset in this sense.

5.4) Correlation between new media adoption and company size

Q4: Is there a difference in adopting new media technology among companies in respect to their company size?

Bigger companies are assumed to have a higher degree of new media adoption for IR because they are normally the leader in the market and they should take it more serious to build up and maintain an outstanding investor relations. Besides, big companies can afford the cost of using new technologies. The bigger the company, the higher degree of new media adoption for IR it has. Is this the real picture? To find out the answer, this assumption was tested with Pearson's correlation coefficient. The hypotheses are set as follows:

Null hypothesis: *Large companies have no difference in degree of new media adoption than small companies.*

Research hypothesis: *Large companies have a higher degree of new media adoption than small companies*

For US companies, the obtained Pearson's r was 0.078 while the table Pearson's r was 0.2172 (at 0.05 significance level). Thus the null hypothesis is accepted. Statistically, company size does NOT matter in affecting the adoption of new media for investor relations in the United States.

For HK companies, however, the obtained Pearson's r was 0.402 while the table Pearson's r was 0.349 (at 0.05 significance level). Thus the research hypothesis is accepted. Statistically, there is a significant difference in adopting new media technology among companies in respect to their company size. Large companies tend to have a higher degree of new media adoption than small companies. The bigger the company, the higher degree

of new media adoption in IR it has in Hong Kong.

The homogenous nature of new media adoption in US companies in respect to company size may be attributed to the matured development of investor relations and the provision of IR technology services providers. As mentioned above, due to the rigid regulation confining the information disclosure, listed companies in US regard the building of IR as a “must-do”. In fact, the Internet is widely agreed to be the most cost-effective communication tool for disseminating company information and communicating with investors. New media, in this sense, serves as an effective tool to disseminate information to the mass at very low cost. The relative advantage of economic profitability of adopting new media in IR is generally agreed by the US CEOs. As the leader in the global market, US is also the pioneer in the profession of investor relations. In addition, there are plenty of IR-related technology services providers, such as webcasting providers, in US. With keen competition, the cost of adoption is relative lower than the cost 3 years ago (Pownall, 2002). As a result, the adoption of new media becomes very common for all companies in US, no matter how big they are.

Comparatively, the profession of investor relations in HK has not yet well-developed. IR specialist Richard Carpenter attributed the late development of IR to the Asian financial crisis in late 1997. “Asia seemed to be just gearing up for a push on to a higher level of investor relations. Then the markets started collapsing”. The immediate impact of the market collapse across the region has been many companies taking the view that they were right in assuming that proactive investor relations was not worth the effort

(Carpenter, 2001). The financial crisis hindered the development of IR in the region. That's why only large-caps are still willing and can afford to invest in investor relations online.

From another point of view, the difference in regulation may also hinder the development of IR in Hong Kong. As mentioned above, the subsequent regulations since 1933 by the Security and Exchange Commission confined the information disclosure of US listed companies and gave rise to investor relations. On the other hand, regulations on information disclosure in Hong Kong are not well-defined. When Hong Kong's Stock Exchange, Futures Exchanges and Securities Clearing Company were merged and privatized as Hong Kong Exchange, the market regulating listing division was left inside the profit-making company rather than being transferred to the Securities and Futures Commission (SFC). As David Webb, founder of Hong Kong Association for Minority Shareholders (Hams), criticized, "the consequence of that is the exchange has been very slow to innovate its regulations and tends toward weaker regulation." (Spiegelberg 2002) Critically, HK's stock market is always blamed for violation of the rights of minority shareholders. CEOs focus their attention to institutional investors and analysts. Thus, the traditional conference call for investment bankers and portfolio managers is good enough for them. They don't' think it is worthwhile to put resources on online investor relations which is largely beneficial to individual shareholders. (Webb 2001).

5.5) Correlation between new media adoption and stock activity

Q5: Is there a difference in adopting new media among companies in respect to their stock activity?

Active stock is assumed to have a higher degree of new media adoption for IR because their large trading volume is usually interpreted as their importance in the market. Thus, the larger trading volume its stock has, the higher degree of new media adoption for IR the company has. This assumption was tested with Pearson's correlation coefficient. The hypotheses are set as follows:

Null hypothesis: *Company with larger trading volume has no difference in degree of new media adoption than that with lower trading volume.*

Research hypothesis: *Company with larger trading volume has a higher degree of new media adoption than that with lower trading volume.*

For US companies, the obtained Pearson's r was 0.149 while the table Pearson's r was 0.217 (at 0.05 significance level). Thus the null hypothesis is accepted. Statistically, stock activity does NOT matter in affecting the adoption of new media technology for investor relations in the United States.

Likewise, the obtained Pearson's r of HK was 0.321 while the table Pearson's r was 0.349 (at 0.05 significance level). Thus the null hypothesis is accepted. Statistically, there is no difference in adopting new media technology among companies in respect to their stock activity. Company with larger trading volume does not mean a higher degree of new media adoption than that with lower trading volume.

In short, stock activity is not a predictor of the degree of new media

adoption in IR in both markets. The insignificance of stock activity may be attributed to the fact that volume can be manipulated by institutional investors. A large part of the volume may be traded by institutional investors with little participation of the individual shareholders. That's why some financial analysts query the predictability of trading volume (Thomas, 1999).

6. Diffusion of Innovations: an interpretation of HK's lagging behind

According to the above findings, Hong Kong was lagging behind US in adopting new media in IR and such lagging-behind may be explained by the theory of diffusion of innovations.

λ Relative Advantage

The cost of building online IR has been going downward with the increasing popularity of online IR. However, the relative advantage perceived by the companies in Hong Kong is not sufficient. In practice, building a corporate web site with an IR section is relatively cheap and thus was generally accepted by companies in Hong Kong. However, more advanced features such as webcasting is still costly to many companies. That's why not so many companies adopted such features.

λ Compatibility

The lagging-behind of HK may also be attributed to the different perception of compatibility of new media in IR between the US and HK companies. As mentioned above, investor relations is more emphasized in the United States. US listed companies regard the usefulness and openness of information as a way to build up investor relations. It is the usual practice for listed companies to disclose information. New media, in this sense, serves as an effective tool to disseminate information to the mass at very low cost. The US companies found the cost of such communication is far less than the traditional means. For companies in Hong Kong, however, the need for developing online IR is not so strong. In other words, new media in IR is not consistent with the companies' needs. That's why many of the listed

companies in Hong Kong were not motivated to adopt new media in IR.

λ Complexity

With the advancement of new technologies, new media is not as complex as before. Building, maintaining and navigating a web site is not difficult tasks for most people. However, the factor of complexity is not significant enough to offset the limitation set by other factors like relative advantages and comparability.

λ Trialability

The trialability of new media in IR depends on the complexity of tools. Obviously, trying to build up a company web site with news release is relatively trialable. On the other hand, the trialability of other features such as webcasting and interactive annual reports are relatively low. That's why the adoption of new media in IR in Hong Kong remained at the preliminary level of having corporate website with annual report in PDF format. Adoption of more advanced new media features in IR was not universal.

λ Observability

In addition, the result of adopting new media in IR is difficult to measure. Theoretically, it is believed that online IR is beneficial. However, the effect of adoption was not visible. The invisible effect of adoption discouraged the companies to develop IR online.

7. Conclusion

Theoretically, this research revealed a general picture of new media adoption in IR in Hong Kong. On the whole, the use of official web site to disseminate company information has become the general practice of all companies. All companies selected for examination in this research have their own corporate web site. However, companies from US and HK have different patterns of new media adoption in IR. US is the leader not only in the market but also in IR. HK still lagged behind US in respect to the adoption of new media in building and maintain investor relations. Tech companies in US adopt more new media tools in promoting IR. Company size serves as a predictor for the new media adoption in IR in Hong Kong. However, the stock activity does not affect a company in adopting new media its IR plan in both markets.

Practically, based on such findings, this research provides significant information to managers, online IR-service providers and IR executives:

a) It tells the managers, compared with the US, Hong Kong was lagging behind US in online IR. It also tells that the global trend is that every listed company should develop its online IR strategy, thus Hong Kong companies as international business corporates should cater a plan of online IR.

b) It tells the online IR-service providers that there is much market gap in Hong Kong. Many companies have not yet awared of how to conduct an efficient and cost-effective IR plan online. IR services providers are recommended to sell their services to big cap in Hong Kong which were found to be more willing to pay for

online IR.

c) It tells the IR executives and corporate site designers the companies in Hong Kong remained at the minimal level. More advanced features such as webcasting, interactive financial reports were recommended in their web sites.

Nevertheless, the examination presented in this article provided only a starting point to study the trend of adopting new media in investor relations in HK. Further studies are recommended to complete the picture.

Appendix I

New Media Adoption Scores of 127 listed companies in US & HK

US: 91 companies

Industry Group	Stock Name	Ticker	Score
Automobiles & Components	Cooper Tire & Rubber	CTB	10
	Ford Motor	F	13
	Harley-Davidson	HDI	11
	Visteon Corp.	VC	10
Banks	Bank of America Corp.	BAC	10
	Fifth Third Bancorp	FITB	4
	National City Corp.	NCC	10
	U.S. Bancorp	USB	11
Capital Goods	Boeing Company	BA	9
	Emerson Electric	EMR	12
	General Electric	GE	12
	Ingersoll-Rand Co. Ltd.	IR	12
Commercial Services & Supplies	Allied Waste Industries	AW	7
	Cintas Corporation	CTAS	7
	Equifax Inc.	EFX	11
	Pitney-Bowes	PBI	10
Consumer Durables & Apparel	American Greetings Class A	AM	9
	Eastman Kodak	EK	12
	Hasbro Inc.	HAS	12
	Stanley Works	SWK	9
Diversified Financials	American Express	AXP	11
	Countrywide Credit Industries	CCR	10
	Lehman Bros.	LEH	10
	State Street Corp.	STT	9
Energy	ChevronTexaco Corp.	CVX	12
	Exxon Mobil Corp.	XOM	10
	Kerr-McGee	KMG	9
	Rowan Cos.	RDC	8
Food & Drug Retailing	Albertson's	ABS	7
	Kroger Co.	KR	8
	Supervalu Inc.	SVU	9
	Walgreen Co.	WAG	13
Food Beverage & Tobacco	Campbell Soup	CPB	13
	Coca Cola Co.	KO	13
	Heinz (H.J.)	HNZ	11
	Wrigley (Wm) Jr.	WWY	9
Health Care Equipment & Services	Aetna Inc. (New)	AET	13
	Becton, Dickinson	BDX	12
	HCA Inc.	HCA	11
	Medtronic Inc.	MDT	7
Hotels Restaurants & Leisure	Carnival Corp.	CCL	8
	McDonald's Corp.	MCD	11
	Starbucks Corp.	SBUX	10
	TRICON Global Restaurants	YUM	12

Household & Personal Products	Alberto-Culver	ACV	10
	Clorox Co.	CLX	10
	Gillette Co.	G	14
	Procter & Gamble	PG	11
Insurance	ACE Limited	ACE	9
	American Int'l. Group	AIG	7
	Loews Corp.	LTR	4
	SAFECO Corp.	SAFC	9
Materials	Alcoa Inc	AA	12
	Dow Chemical	DOW	10
	Hercules, Inc.	HPC	9
	PPG Industries	PPG	4
Media	AOL Time Warner Inc.	AOL	11
	McGraw-Hill	MHP	14
	New York Times Cl. A	NYT	11
	Tribune Co.	TRB	10
Pharmaceuticals & Biotechnology	Amgen	AMGN	12
	Chiron Corp.	CHIR	11
	King Pharmaceuticals	KG	6
	Pharmacia Corp	PHA	12
Real Estate	Equity Office Properties	EOP	10
	Equity Residential Prop Tr	EQR	10
	Plum Creek Timber Co.	PCL	12
Retailing	Bed Bath & Beyond	BBBY	7
	Gap (The)	GPS	11
	Nordstrom	JWN	11
	Tiffany & Co.	TIF	7
Software & Services	Adobe Systems	ADBE	12
	Computer Associates Intl.	CA	13
	Microsoft Corp.	MSFT	12
	Yahoo Inc.	YHOO	10
Technology Hardware & Equipment	Agilient Technologies	A	13
	Applied Materials	AMAT	13
	Gateway 2000	GTW	12
	Micron Technology	MU	11
Telecommunication Services	AT&T Corp.	T	14
	BellSouth	BLS	13
	Nextel Communications	NXTL	10
	WorldCom Inc.-WorldCom Group	WCOM	10
Transportation	AMR Corp.	AMR	13
	Delta Air Lines	DAL	11
	Ryder System	R	9
	Union Pacific	UNP	7
Utilities	American Electric Power	AEP	13
	DTE Energy Co.	DTE	13
	El Paso Corp.	EP	13
	Pinnacle West Capital	PNW	13
		Average	**10.396**

HK: 36 companies

Industry	Stock	Stock Code	Score
Oil & Resources	Sinopec Corp	386	8
	PetroChina	857	7
	CNOOC	883	9
	Yanzhou Coal	1171	3
Industrial Goods	China Aerospace	31	3
	Johnson Elec H	179	6
	Jiangxi Copper	358	2
	Varitronix Int'l	710	5
Consumer Goods	VTech Hldgs	303	8
	Vitasoy Int'l	345	5
	Quality Health	593	4
	eForce Hldgs	943	3
Services	PCCW	8	9
	Jiangsu Express	177	6
	TVB	511	3
	RoadShow	888	8
Utilities	CLP Hldgs	2	9
	HK Electric	6	4
	Beijing Datang	991	6
	Shandong Power	1071	3
Financials	HSBC Hldgs	5	11
	CITIC Ka Wah Bank	183	3
	HKEx	388	8
	JCG Hldgs	626	3
Properties & Construction	Cheung Kong	1	3
	Great Eagle H	41	7
	Sino Land	83	4
	Vision Century	535	5
Information Technology	Computer & Tech	46	4
	CCT Telecom	138	6
	ASM Pacific	522	7
	Legend Group	992	7
Conglomerates	Wharf (Hldgs)	4	8
	Hutchison Whampoa	13	5
	New World Dev	17	6
	CITIC Pacific	267	5
		Average:	**5.639**

Appendix II

Coding Sheet

Date: _____

Market: US / HK

Industry Group: _____

Tech or Non-tech Group: _____

Company No.	01	02	03	04
Company Name				
URL				
Company Size (market capitalization)				
Stock Activity (average 13-week daily volume)				
Corporate web site				
IR section on Web page				
Stock quote				
News				
Email news alert				
Annual report				
Interactive annual report				
Webcast				
Proxy statement				
Online proxy voting				
Event calendar				
IR FAQs				
IR contact email/ enquiry post-form				
Printed Material Request				
IR search engine				
Score of IR adoption:				

Appendix III

Explanation of 15 Features of New Media Technology for IR

1. Corporate web site

"Corporate web site" refers to the independent web site of a company. The domain name of the web site is usually the company name or the initial of the company name plus ".com". For example, www.ford.com for Ford Motor; www.ge.com for General Electric.

2. IR section on Web page

"IR section on Web page" refers to the sub-page in a corporate web site tailored made for IR communications. Usually, the IR section is likely named "Investor", "Investing", "Investor Relations", "Investor Information", "Shareholder", etc.

IR section on website: P&G.com

3. Stock quote

Stock quote gives the price information of the stock at particular time. While the price of the company stock is always big concern of the investors, the company web site serves as the most powerful channel to give stock information, which is impossible offline (Witner, 2000; Middleberg, 2001).

Stock quote: cocacola.com

4. News

"News" section in a corporate website is for posting news release from the company as well as newspaper cutting of the company from other media (Middleberg, 2001).

5. "Email news alert"

"Email news alert" is a free service for anyone to receive email alert of the company's latest news and information. Email news alert requires voluntary subscription. Usually, people can subscribe the email news alert by just entering his personal email address into the subscription box and clicks the "subscribe" button.

6. Annual Report

Annual report is the fundamentals to all listed companies. Besides print copy, annual report is available on the company website. In this sense, the cost of publication is highly reduced. Format of annual report is usually in PDF format, which is a very common format in presenting document in Internet. It presents the document exactly in the same layout as the printed version. However, PDF format required a pre-installed reader (the most common is the Acrobat Reader). Since it is a graphical representation, the file size is large and required time to download the file. Besides, the same presentation as printed version was not tailored for the computer screen, which made reading

difficult. That's why IR specialist advocated the interactive version of annual report in HTML.

7. Interactive Annual Report

HTML is a programming language for web pages. The text representation makes the file size small. Besides, hyper links make showing highlights possible. Company can arouse audience's attention by posting important message as a highlight with link to details.

8. Webcast

Webcast is a means via the Internet by which a company can broadcast, in video or in audio, the special events such as conference call or new product presentation to anyone online (Witner, 2000). Presentation slides or just the audio portion of the event can be webcasted live or archieved for later playback by the viewers. No special equipment is needed to initiate or attend a Webcast, just a PC with connection to the Internet and speakers.

9. Proxy Statement

Proxy statement is a document explaining the items (such as election of directors, approval of stock incentive plan) on which shareholders are asked to vote in the annual meeting of the companies.

10. Online Proxy Voting

Nowadays, proxy voting can also be undertaken online. The adoption of online proxy voting is convenient for shareholders to make their vote, but also save the time and resources for companies on proxy solicitation.

11. Event Calendar

Event calendar is used to tell the date of important events of the company. Usually, the big date for the company includes, earning report, conference call, new product release, press conference, etc.

12. IR FAQs

IR FAQs is a list of frequently asked questions about investing in the company. (See Figure 2) A good event calendar and IR FAQs reduce much offline workload in handling tele-enquiry about the date of earning reports or how to buy the stock (Witner, 2000).

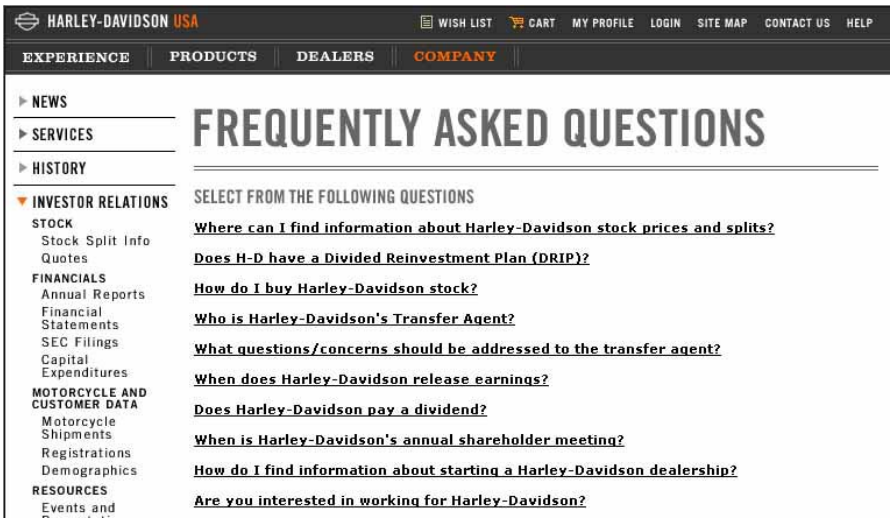
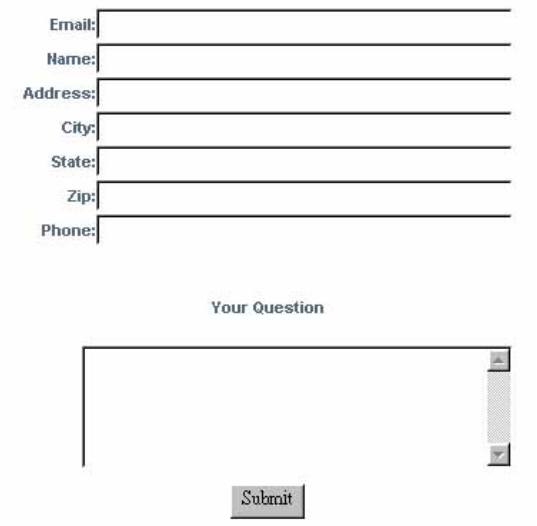


Figure 2) IR FAQ: harley-davidson.com

13. Email

"Email" serves as a fast, asynchronous means of communication between the IR department and the public. To enhance the efficiency of handling enquiry, some companies choose to use "online enquiry post-form" instead of giving an email address. Format of enquiry is standardized for handling.



An enquiry post-form

14. Online Request Form for Printed Materials

"Online request form for printed materials" help identify the person who wants a hard copy. Although most materials are provided online, many people may still like a hard copy. Email, enquiry post-form and request form for printed

materials help reduce offline workload in handling tele-enquiry. (Witner 2000)

A request form for printed material

15. IR Search Engine

“IR search engine” is specified for search investor-related information. Many company web sites have a search engine for the site. Yet Witner believed a specific search engine for investor relations is helpful for investor and is also boosting the image of investor relations of the company (Witner, 2000).

Reference

Boeyen, Phil (2002) NZ investor relations OK but could do better. Retrieved April 3 2002, from http://www.unlimited.net.nz

Carpenter, Richard (2001),Shattered. Retrieved July 2 2001, from IR on the Net http://www.ironthenet.com.

Charles, Broom, (2000), *The Communication Handbook*, NY: Maupin House.

Cossette, Jeff (2002), A Brief History of Disclosure. Retrieved April 12 2002, from IR on the Net http://www.ironthenet.com.

Digital Strategies Group (2001) Investor Relations Online: Survey of companies listed on the Warsaw Stock Exchange. Retrieved Dec 5, 2001, from http://www.unlimited.net.nz

Dilenschneider, Robert I, ed. (1996), *Dartnell's Public Relations Handbook*, Chicago: Dartnell Corp.

Duputy, William (2001), SEC Dictum Spells Opportunity for Communications Professionals. Retrieved June 1 2001, from http://www.internetprguide.com

Everett, Rogers M (1995), *Diffusion of Innovations*, NY: Free Press.

Farr, James (2001), People: Lawrence Fok. Retrieved April 12 2002, from IR on the Net http://www.ironthenet.com.

Haig, Matt (2000), *e-pr: The Essential Guide to Public Relations on the Internet*, London: Kogan Page.

Healey, Joseph F. (1993), *Statistics: a Tool for Social Research*, California: Wadsworth Publishing Company.

Heath, Robert L. (2001), *Handbook of Public Relations*, London: SAGE Publishing.

Hendrix, Jerry A.(2001), *Public Relations Cases*, London: Wadsworth.

Holtz, Shel (1999), *Public Relations on the Net*, New York: AMACOM.

Iglesias, Carolyn (2002) The new word in press releases is “interactive”. Retrieved January 21 2002, from IR on the Net http://www.ironthenet.com.

Investor Relations Business (2000), “Webcasts Drain Live Events: Online Presentations Improve Overall Audience, Demonstrate Cache”, Retrieved Dec 18,2000 from http://www.irb.com.

IRS (2002), A brief introduction to investor relations. Retrieved March 15 2002, from IR on the Net, http://www.ironthenet.com.

Jolly, Adams ed. (2001), *Managing Corporate Reputations*, London: KOGAN Page.

Landesman, Earl, (1997) *Corporate Financial Management*, NY: John Wiley & Sons.

Lesly, Philip, ed. (1998), Lesly’s *Handbook of Public Relations and Communications*, Chicago: Contempory Books.

Levin, Jack & Fox, J.A. (1994), *Elementary Statistics in Social Research*, NY: Harper Collins College Publishers.

Mann, Fred (1998), "New Media" Brings a Net Set of Problem. Retrieved April 29, 1998, from http://www.poynter.org.

McGovern, Gerry (2001), The Web's Credibility Problem. Retrieved July 6, 2001, from http://www.clickz.com.

Middleberg, Don (2001), *Winning PR in the Wired World*, New York: McGraw-Hill.

NewsDirections, Online Investor Relations. Retrieved May 20 1999, from http://www.newsdirections.com.

Neuman, W.L. (1994), *Social Research Methods: Qualitative and Quantitative Approaches*, NY: Allyn and Bacon.

Pisik, Betsy (2002), 360 Open and Shut. Retrieved February 14 2002, from IR on the Net, http://www.ironthenet.com.

Pownall, Charlis (2001), The net best thing. Retrieved April 12 2002, from IR on the Net http://www.ironthenet.com.

Roger, J & Ruotolo, Michele (2000), General Criteria for S&P U.S. Index Membership, *Stand & Poor's*, NY: McGraw Hill Companies.

Schultz, Tanjev (1999), Interactive Options in Online Journalism: A Content Analysis of 100 U.S. Newspapers. JCMC 5 (1).

Spiegelberg, Rupert (2002), Net Gain. Retrieved January 18 2002, from IR on the Net http://www.ironthenet.com.

Stuttgart, F (2000) DaimlerChrysler provides the best shareholder information on the Internet. Retrieved February 11 2000, from http://www.daimlerchrysler.com.

Ternero, Manela (2002), 360 Degrees of Disclosure. Retrieved March 17 2002, from IR on the Net, http://www.ironthenet.com.

Theaker, Alison (2001), *The Public Relations Handbook*, London: Routledge.

Thomas, Michael C.,(1998), *Mastering Fundamental Analysis*, New York: Dearborm Trade.

Thomson, L. M. (2002) NIRI Release Survey: An analysis of Trends and Use of Technology in Investor Relations. Retrieved December 21 2001, from http://www.niri.org.

Wilcox, Dennis L. et al. (2000), *Public relations: strategies and tactics*, New York: Longman.

Will, Markus & Porak, V (2000), Corporate Communication in New Media Environment. JMM, 2 (3).

Witmer, Diane F. (2000), *Spinning the web: a handbook for public relations on the Internet,* New York: Longman.

HKEx, http://hkex.com

Invest FAQs, http://invest-faq.com

Hoover's, http://hoover.com

Standard and Poor's, http://standardandpoor.com

Yahoo! Finance Hong Kong, http://hk.yahoo.com