INTRODUCTION

The Internet brings forth rapid, revolutionary, unsettling, often paradoxical changes to our post–Cold War society. One of the consequences of the Internet that inspired our experiments into the impact of creativity on the Internet is in its implicit equality. The concept of equality is familiar to people living in the United States: everybody is equal before the law, and this is the driving philosophy behind human rights. The Internet transforms this ideal (as is the case for many developing countries) to reality.

For in law, the practical problem is one of paying for good lawyers—who may often be far too costly for the average person to afford. The law requires persuasion by lawyers. That was why Marx saw the law as an instrument of oppression by the rich against the poor. The Internet has enabled a practical realization of equality. It is precisely this equalizing effect of the Internet that we shall argue has made it critical to embed creativity in the design of a logo as used on the Internet.

The Internet as it stands will be difficult if not impossible to be realized in any other than a dynamic, free society as in the United States. The root source of this equalization of the Internet is in the computer screen: limiting the exposure of a customer’s access to a web page. In every business, whether colossal and long established (as is IBM) or as minuscule as a backyard, home-based, one-person startup, that window frame is 8 by 11 inches.

Extrapolating into the foreseeable future, every child born to this world may one day be allocated a www.name.com as an internet user.1 Children of the future will be so bombarded with images that only the truly creative will attract their eyes. We represent the coming of age of the Universe of an Internet Child figuratively (Fig. 1): a child whose web page (a circle) is super-linked and intensely, complexly, and intricately networked globally.2

Just like a unique identity card number (as in the case of Singapore), this may well be allocated to be hers or his for life. For it is from the Internet habits of the children of the future that the latter-day corporate giants (if these remain) and businesses will attract sales and cut a profit margin. What may initially draw the attention of this Child of the Internet to a business or corporation is the immediate perceived creativity, for example, as conveyed in the presence of a corporate logo. It is from the corporate logo that one learns about there exists an independent, non-virtual, legal person—seen as an e-identity on the Internet. As human beings, we enjoy sensations such as “wow” or conversely “yuck” upon seeing a symbol or picture. In other words, how a corporate logo impacts upon others is of critical importance in designing an e-identity, whether you are a one-person business or a giant, global outfit.

MATERIALS AND METHODS

For these reasons, we implemented a series of controlled, flash card experiments with some 52 logos that represent e-identities. The main criterion for inclusion of a corporation or business in our study was that their business had to be technology-related within the broad field of information technology. Also they had to be operating in the milieu of Singapore. The businesses we found shared characteristics consistent with the fast-moving, rapidly changing, information technology industry. They were led often by the young and the aggressive.

As a proxy for our Child of the Internet, we sampled on a random basis the younger generation (50 respondents), with ages ranging from 16 to 27.

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This is the age band of frequent users of the Internet in Singapore, as is likely to be the case elsewhere.

We then downloaded these logos with their embedded colors off the Internet. For every one of these logos, we constructed a 4 by 6 inches flashcard. The background color is white, and the corporate logo is situated in the center. Behind each flashcard with the logo, we inscribed the name of the business or corporation that owns the e-identity. As part of our experiment, we posed a series of questions _inter alia_ to each respondent individually as related to each of the logo. The scores for these questions were scaled from 1 for the lowest (e.g., very unattractive; very simple; very uncreative), to 5 for the highest (i.e., very attractive; very complex; very creative):

- The attractiveness of the logo
- The complexity of the logo
- The creativity of the logo

This was followed by questions that were dichotomously scaled as simple yes or no as follows:

- Whether the logo presents a professional image for the firm
- Whether the firm's logo reminds the respondents of a technology-based firm

Using this as a perceptual database, we were able to render co-relational plots on the interrelationships between attractiveness and creativity to answer our queries:

- Is attractiveness of a logo dependent on its perceived creativity?
- Is perceived creativity necessarily also complex?
- How does creativity relate to design elements (as in the number of letters, symbols, and colors)?
- Is the professionalism of a firm enhanced by a creatively designed logo?

And we also explored whether being informative is associated with perceived creativity in the logo:

- Is the nature of an industry (i.e., information technology [IT]) as perceived related with a creatively designed logo?

We turn to the results of our empirical tests.

### RESULTS

**Correlation between attractiveness and creativity**

What is most interesting is the very strong relationship between attractiveness and creativity (Fig. 2). Pearson's $r$ value is 0.918 (significance level of) and Spearman's rho a very close 0.910. In other words, a creatively designed corporate logo on the Internet is a powerful magnet in that it fuels and draws attention upon itself. In other words, from the perspective of maximizing on marketing opportunities in the digital world, it pays to commission a professional to design a creative logo.

**Correlation between creativity and complexity**

This is another most interesting finding and runs contrary to the oft-quoted belief of pursuing simplicity in designs (Fig. 3). An Internet logo that is complexly designed is almost as equally likely to be perceived as being creative. Both values of Pearson's $r$ value of 0.938 (significance level of 0.01) and Spearman's rho of 0.934 (significance to the 0.01 level) are high, which suggests a very strong positive relationship between creativity and complexity.
It must be clear that no causation is implied. That is, one does not cause the other.

As the complexity embedded in the design of an Internet logo increases, the perception of it being creative is also enhanced. Why? Perhaps a complex logo is more expressive as compared to the simple. Greater expressiveness tends to generate in people a far greater sense of the creative.

**Correlation between creativity and number of letters**

One design parameter for a corporate logo is the number of letters to be used to capture a name (e.g., IBM or BMW) (Fig. 4). The pattern of the correlation plot indicates that the points are widely dispersed around the positively sloping line. The relationship is at best weak, though positively related. Pearson’s $r$ is 0.307 (significance level is 0.05—the conventional level), whilst Spearman’s rho is relatively much lower, at 0.246 (as seen in the earlier co-relations).

That is to say, the number of letters per se has little influence on perceived creativity. Perhaps the secret lies more in how the letters are configured as in the types of fonts used.

**Correlation between creativity and number of symbols**

The pattern in Figure 5 unveils a concentration into two columns. The figure suggests a rather modestly strong positive relationship between the two variables. Surprisingly, we find Pearson’s $r$ value (0.690, significant to the 0.01 level) to be exceeded by Spearman’s rho value (0.702, significant to the 0.01 level). Statistically, this is a significant correlation.

There is an interesting pattern in the co-relations as plotted. Those with at least one symbol tend to concentrate on the upper part of the chart while those logos without any symbol falls to the lower. In other words, perceived creativity rises with the early use of symbols. This perhaps could be due to pictures as symbols being more information-intensive than the isolated use of alphabets alone. This finding reminds us of the adage: a picture is worth a thousand words. With the explosion of pictures on the Internet it becomes a real challenge to design that arresting symbol or picture. Logos that are merely alphabets tend to be boring as compared to those that have symbols as well.

**Correlation between creativity and number of colors**

Although concentrated along in columns, these dots of co-relations are still dispersed (Fig. 6). Not surprisingly, the statistical results indicate a rather weak relationship. The positively sloping best-fit line suggests a positive though weak relation. In other words at best there is but a marginal impact.
on creativity with greater use of colors. This is reinforced by my correlation measure: Pearson’s $r$ value is 0.238, and Spearman’s $\rho$ 0.197 are both statistically insignificant.

Yet there is some useful insights from studying the plot. Most of the dots are found along the column of only two colors used and in the lower creativity region. For the three-colored column most of them are clustered around the upper, higher creativity region. This implies one more color than two as used in logos tended to result in the logos being perceived marginally as the more creative. However, it should be noted that colors ought to be used wisely. There are considerations like harmony between colors. Contrasting colors may glare into one’s eyes.

**Correlation between professional impact and creativity**

The dots tend to be concentrated around the positively sloping, best-fit line (Fig. 7). Not surprisingly, statistically there is a strong, significant relationship. The values are Pearson’s $r$ value (0.743, significant to the 0.01 level) and the higher Spearman’s $\rho$ value (0.762, significant to the 0.01 level). In other words, the more creative a logo, the more likely that a professional image is being conveyed.

**Correlation between information and creativity**

As we had discussed earlier we are interested in exploring the perspective of a logo as capable of being information-intensive. As can be seen from Figure 8, the points are widely dispersed. This signifies a weak relationship between the variables. At the same time, the slope is again positive. Therefore, on the whole, the relationship is a weak though positively related one. The Pearson’s $r$ value stands at 0.465 (significant to the 0.01 level), with Spearman’s $\rho$ higher at 0.508 (significant to the 0.01 level). In other words, there is only a modest correlation between the informative content of a logo and its perceived creativity.

**DISCUSSION**

Whilst efforts are made in Internet research to derive implementable, user-oriented methodology for the design of Web-site we had focused far more narrowly on a key communicative symbol: the corporate logo. We demonstrated here that there are useful lessons for setting design parameters for empirically testing these logos.

We demonstrated through our controlled experiments that a greater use in the number of symbols are more likely to impact on perceived creativity than enhancements through use of more colors. That perceived creativity in created corporate logo is a worthwhile pursuit to enhance the power of the
corporate logo to attract. A complex design tends to enhance rather than detract from embedding creativity into a corporate logo. That professionalism about a firm as represented by an e-identity is enhanced through a creatively designed corporate logo.

To sum up we argue here that in the coming age of the Child of the Internet, perceptions of creativity as embedded in an e-identity as a corporate logo is likely of crucial importance. That in the immediate future e-identity shall emerge to share a greater significance as part of corporate Internet strategy.\(^8\) The art of shaping an e-identity\(^9\) becomes a critical skill to be mastered for gaining an edge when managing the marketspace.\(^{10}\)

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REFERENCES


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AQ2: Au: Please provide academic degree for corresp. address.

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