

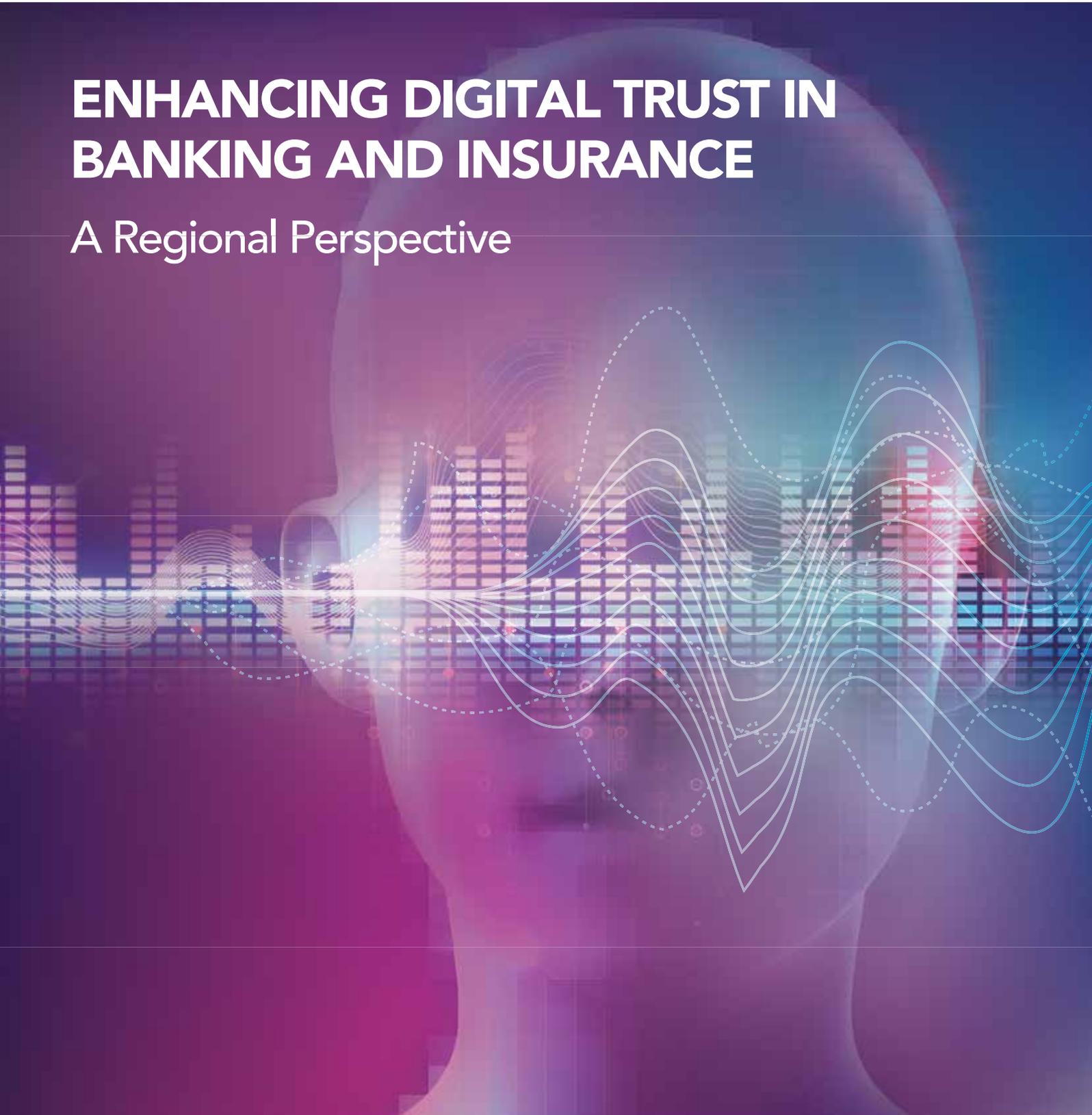


AIF
ASIAN INSTITUTE OF FINANCE

RESEARCH REPORT

ENHANCING DIGITAL TRUST IN BANKING AND INSURANCE

A Regional Perspective



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FOREWORD

Increased trust in online banking and insurance products and services could enhance the appeal of a range of financial services products by converting more users to digital. Digital trust is vital when it comes to online financial services. Developing digital trust is a complex process since it requires the alignment of several different parameters, including business processes, technology, regulation and consumer expectations. The first step in this process is the online interface which consumers use. In addition to security, research indicates that the look and feel of websites could influence consumer trust and use of online services. This study is about how visual aesthetics and sound influence consumer trust in relation to online financial services.

The financial services industry (FSI) is likely to continue to digitalise with an ever-increasing momentum, meeting consumer expectations for real-time, ubiquitous, on-the-go service convenience. Consumer trust remains among the widely acknowledged barriers to achieving a full digitalisation of financial services. Consumer subscription to digital financial services (online, mobile and omnichannel) is being held back by trust and security issues, real and imaginary. Cybersecurity is a major hurdle and all financial services including start-up FinTech and RegTech companies are innovating to address this issue, with the overall aim of enhancing digital trust among consumers.

This study on the relationship between trust and visual aesthetics, multisensory perception and the design of online space in the FSI was undertaken by the Asian Institute of Finance (AIF) in conjunction with the Imagineering Institute. A first of its kind in Malaysia, if not, we believe in the region. This study was undertaken not only to demonstrate how visual and auditory cues can impact the way in which consumers perceive, feel and engage with financial services, but to capture the interaction effects between various sense-perception stimuli in terms of online trust in financial services. In the future omnichannel consumer interactions are likely to be multimodal, where consumers will be faced with multisensory stimuli. The relevance of the study is to demonstrate to players in the FSI that the multisensory cues of online interfaces do moderate and can directly influence consumer trust. It is important that the financial services industry embraces the concept of enhancing consumer trust in its online presence through online multisensory aesthetics.

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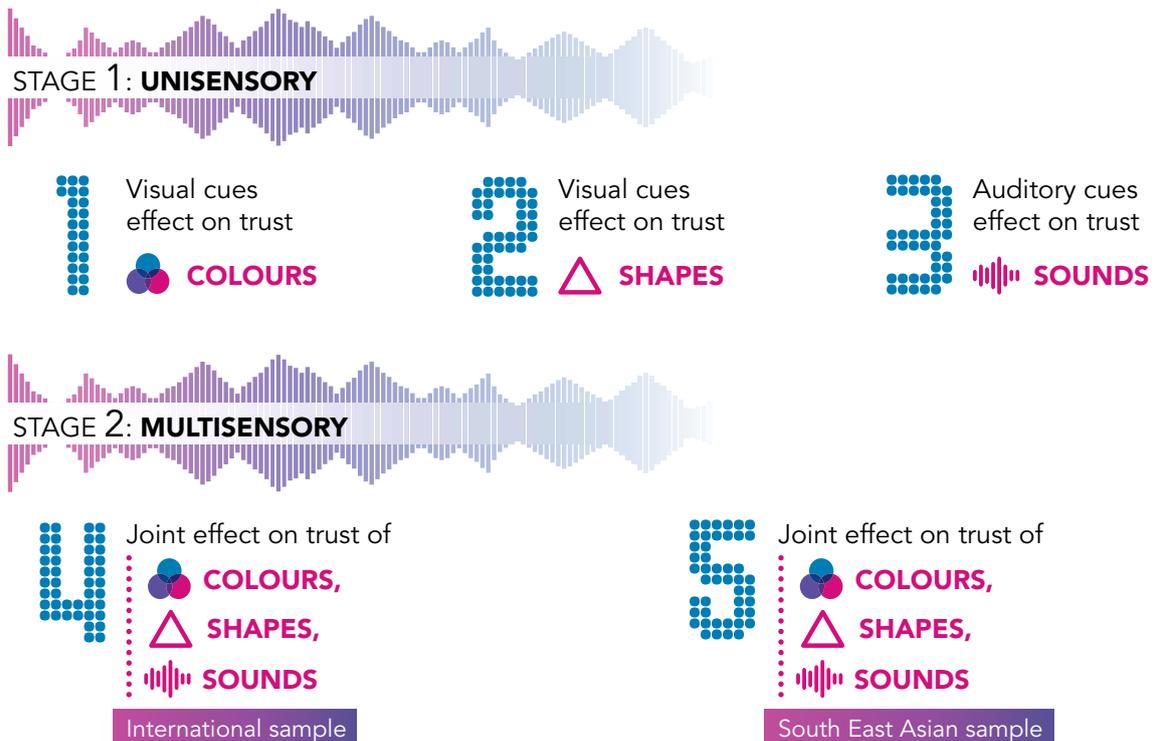
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EXECUTIVE SUMMARY

Digital trust is an important factor when it comes to using online financial services. With the increasing digitalisation of the financial services industry and FinTech disruption, building consumer trust has never been more crucial. To date the role that interface aesthetics plays in determining trust in the financial services context has not been widely researched. While research has suggested that trust is closely linked to visual aesthetic design, only a few studies have explored how the other senses may engender trust. This study aims to capture the effects of interactions between various sense-perception stimuli in terms of determining online trust in the financial services industry. This is important because multisensory cues can impact on the way in which consumers perceive, feel and engage with financial services.

In this study, first it was assessed how visual features and sound features influence trust in online banking and insurance services. Subsequently, we tested the joint influence of visual and sound features in a multimodal context. In these two multimodal or multisensory contexts, multiple websites providing banking and insurance services were created in blue, white, red, and yellow, as well as symmetrical and asymmetrical versions. These websites were used to randomly evaluate the influence of colour hue and website symmetry on trust, as well as the influence of ascending/descending sounds. One multisensory scenario tested these effects in an international context while another tested these for selected samples in South East Asia.

Figure 1: Brief summary of research scope



Key findings from the study include the following:



Colours and shape features can influence trust in online banking and insurance services, in particular colour hues and shape symmetry.

At both the unisensory and multisensory stage dull colours are trusted more than bright colours. Blue and white seem to be trusted more than other colours, and in particular, red appears to be trusted less. Yellow hue is trusted more for insurance websites.



Symmetry enhances consumer digital trust.

At the multisensory stage it was discovered that, for both banking and insurance services symmetrical designs are trusted more than asymmetrical designs. The effect of symmetry varies from country to country.



In terms of soundscapes, customers seem to trust ascending tones more than descending, particularly for the insurance industry. Low pitch and low volume tones are also trusted more.

However, at the multisensory stage, it was also found that customers trusted websites when no sound was present rather than with either an ascending or descending tone.

The multisensory scenario was conducted in selected Southeast Asian countries, namely Indonesia, Malaysia, Philippines and Singapore. Generally, the results seem to follow a broader international sample but with certain variations across countries.



The preliminary results suggest that certain colours (e.g. blue and white), shape features (e.g. symmetry) and sound features (e.g. silence or ascending tones) enhance trust, whereas others tend to hinder it (e.g. red, asymmetry and descending tones). At the multisensory stage these results were moderated at various levels.

Keywords: Online financial services, digital trust, multimodal, multisensory interaction design, visual aesthetics, sound, Indonesia, Malaysia, Philippines, Singapore.

INTRODUCTION: DESIGNING FOR TRUST IN ONLINE ENVIRONMENTS

Trust in Online Environments

Trust is a crucial element in online environments. Trust can influence customers' responses to online transactions and products engagement. Several studies have suggested that design is one of the most important factors when it comes to online trust. Online trust is closely related to graphic, structure, content and social-cueing design¹. In part, this is linked to the fact that design can influence the way in which people feel, and in turn their levels of trust. However, more importantly these design factors need to take into account the systematic connections between the senses.

Multiple sensory cues (colour, shape and sounds) can be meaningfully combined in order to create trustworthy online environments. It is widely accepted that online store atmospherics can have a profound effect on consumer behaviour.

The concept of multisensory design refers to the idea that one can systematically design the sensory features, as well as interactions of an (online) environment in order to influence the way in which people perceive and experience a product or a service. For example, just think of a website's colour, shape, typeface and the use of a sound. Evidence suggests that people match shapes and colours: circles are associated with red, squares with blue and triangles with yellow². Similar tendencies are reported for sound features³.

¹ Y. D. Wang and H. H. Emurian, 'An overview of online trust: concepts, elements, and implications,' *Computers in Human Behavior*, vol. 21, no. 1, pp. 105-125, 2005.

² N. Chen, K. Tanaka and K. Watanabe, 'Color-shape associations revealed with implicit association tests,' *PLoS one*, vol. 10, no. 1, pp. e0116954, 2015.

³ V. S. Ramachandran and E. M. Hubbard, 'Synaesthesia – a window into perception, thought and language,' *Journal of Consciousness Studies*, vol. 8, no. 12, pp. 3-34, 2001.

Shapes, colour and words (including the name of a product and/or brand) are features of online design and can influence how people feel about online environments. By taking into account the way in which people respond to these sensory features, it is possible to influence people's trust in online services. For example, the name of an insurance policy, the online typeface and the colour of any images that happen to surround it, will influence potential customers.

Over the last couple of decades many financial institutions worldwide have developed their own online platforms and services as more and more consumers use the Internet. To date, no research has been conducted about multisensory influences on online trust in the context of financial services and this AIF study aims to bridge this gap.

Approach: Test Levels of Trust

The idea with the preliminary scenarios was to assess the way in which customers associate different colours, shapes and sound features with trust. The main multisensory tests were run only after establishing what stimuli were viewed as being 'trustful' versus 'distrustful' at the preliminary stage. The idea was to test the more or less 'trusted' design elements to see whether they would influence trust in online banking and insurance environments.

Customers were divided between banking and insurance. Advanced statistical methods were used to analyse the data.

RESEARCH FINDINGS

Unisensory Findings

Colours and trust

We evaluated the way in which people trust colour features, namely hue and brightness. Seven colours were used as stimuli in the present study, both in brighter and dull versions, giving a total of 14 colour stimuli (see *Figure 2*).

Figure 2: Colours used to ascertain trust. Panel A and B show the brighter and dull colours



The results of both the banking and insurance groups, revealed consistent results in terms of the most trusted colour dimensions. When it comes to colour hue, white and blue are trusted more than any of the other colours. The pattern is less clear when it comes to distrust, but it is possible to say that the most 'distrusted' colours are yellow and red, with bright red being particularly distrusted in the context of insurance services.

Brightness also influenced which colours customers trusted more, with dull colours being trusted more than brighter colours among both banking and insurance customers. *Figures 3 and 4* present a summary of trust responses as a function of colour brightness and hue.

Figure 3: Summary of the percentage of 'trust' responses as a function of colour brightness and hue, for banking services

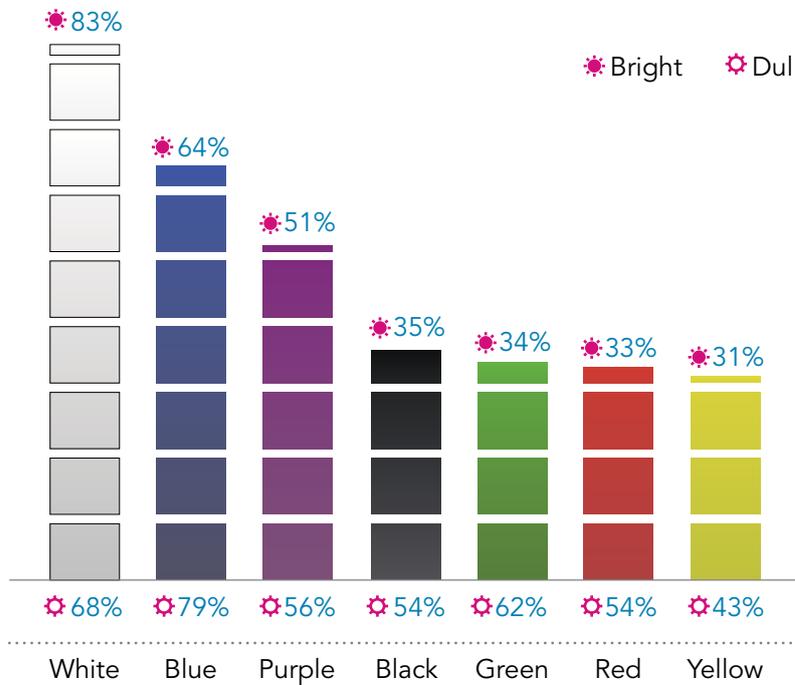
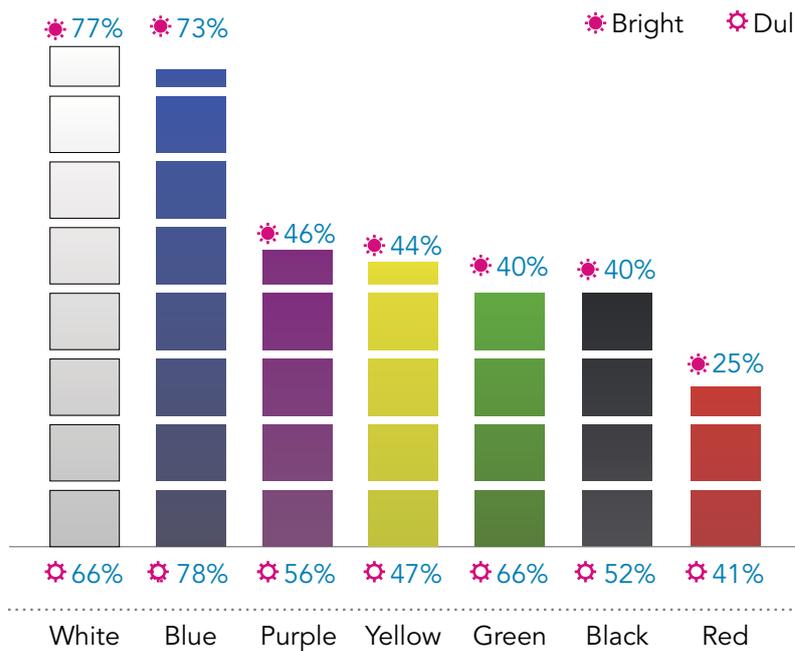


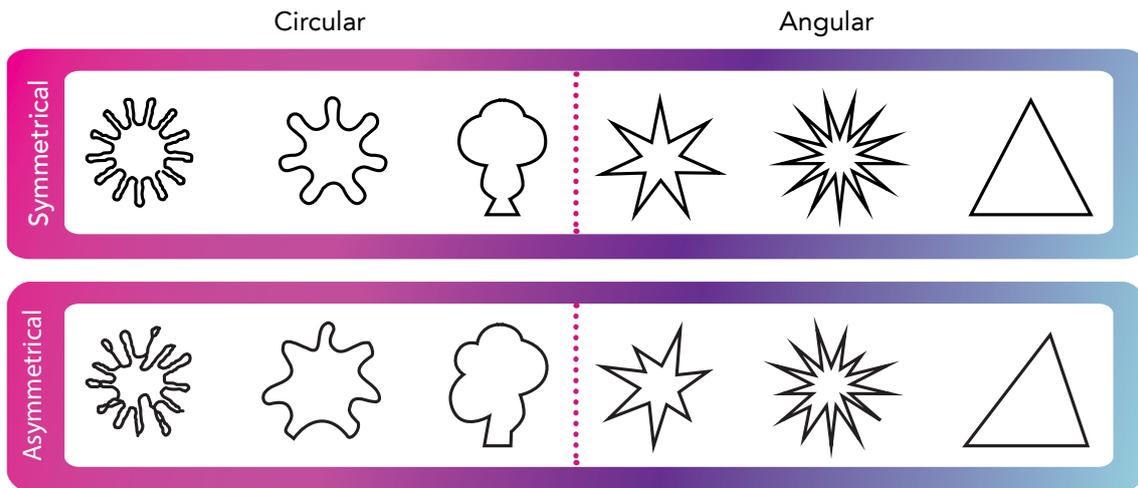
Figure 4: Summary of the percentage of 'trust' responses as a function of colour brightness and hue, for insurance services



Shapes and trust

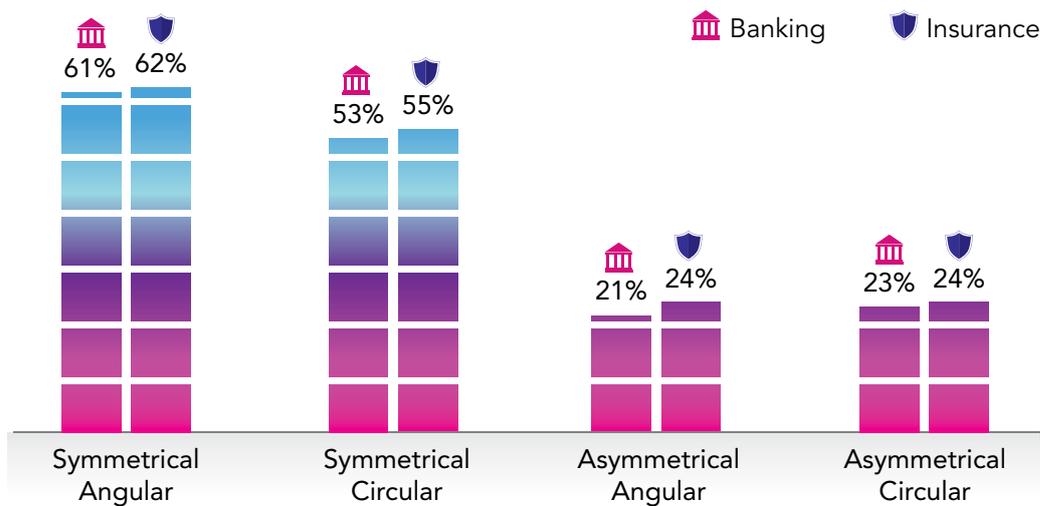
We then evaluated the way in which customers trust shapes, namely curvature and symmetry⁴. In total 12 shapes were selected, of which six were symmetrical (with three in circular and three in angular forms) and six were asymmetrical (with three in circular and three in angular forms) (see Figure 5).

Figure 5: Shapes used to ascertain trust



Results indicate that people trust symmetrical shapes more than asymmetrical. It also appears that customers trust angular symmetrical shapes more than circular. Figure 6 presents a summary of the trust responses as a function of symmetry and curvature.

Figure 6: Summary of the percentage of 'trust' responses as a function of symmetry and curvature



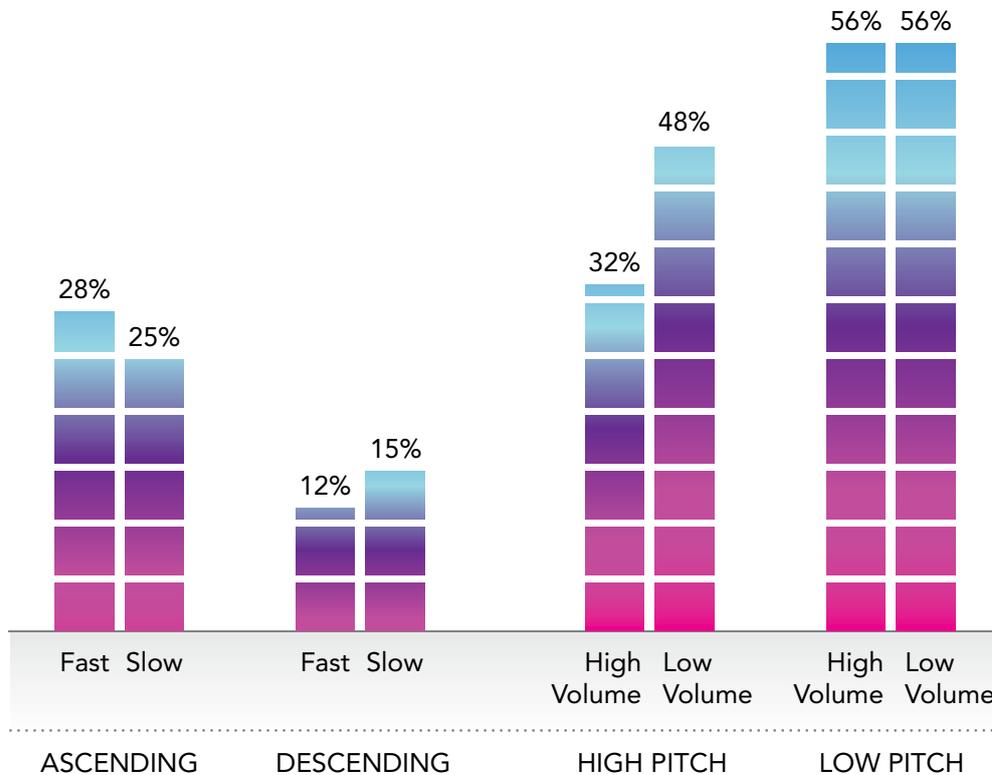
⁴ A. Salgado-Montejo, J. A. Alvarado, C. Velasco, C. J. Salgado, K. Hasse and C. Spence, 'The sweetest thing: the influence of angularity, symmetry and the number of elements on shapevalence and shape-taste matches,' Frontiers in Psychology, vol. 6, 2015.

Sound and trust

We then evaluated the way in which customers trust sound features, namely volume of sound, speed, direction and pitch. Previous research⁵ has suggested that generally people feel more pleasant and involved when they are exposed to fast music (versus slow music) in online stores.

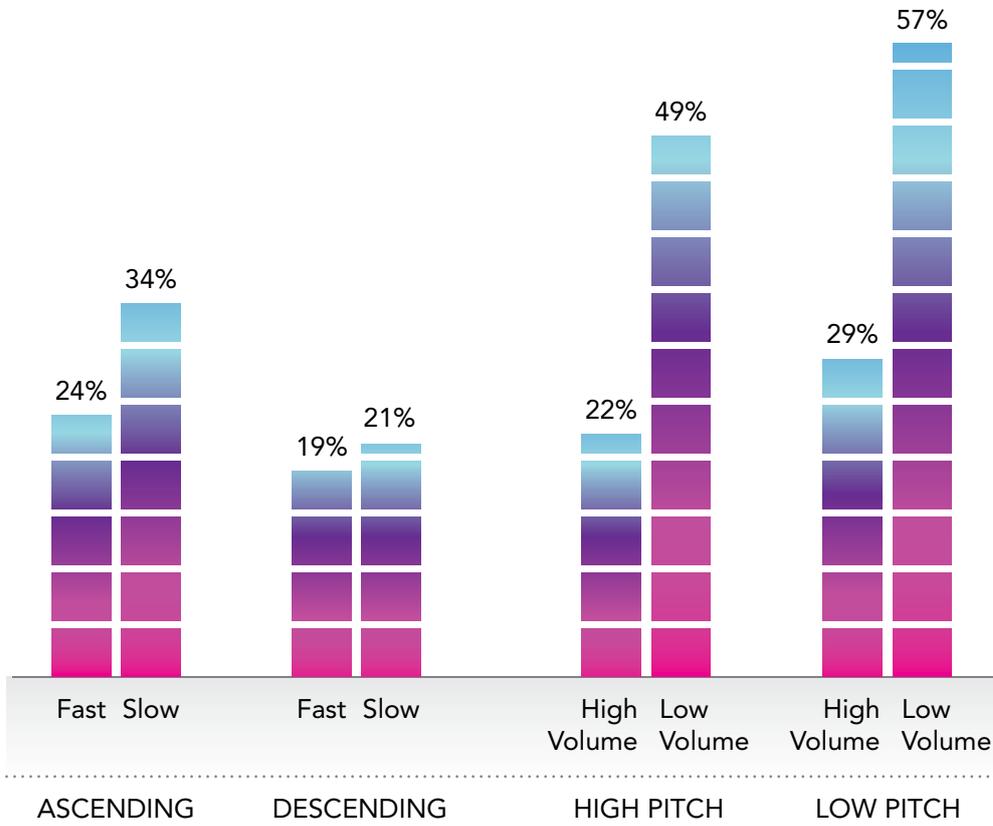
Significant associations were found between trust in online banking and ascending (versus descending) sounds, and with low (versus high) pitch properties. Indeed, at the unisensory stage, ascending sounds were significantly associated with trust in both online banking and insurance services.

Figure 7: Summary of the percentage of 'trust' responses as a function of sound features, for banking services



⁵ F.-F. Cheng, C.-S. Wu and D. C. Yen, 'The effect of online store atmosphere on consumer's emotional responses – an experimental study of music and colour,' Behaviour & Information Technology, vol. 28, no. 4, pp. 323-334, 2009.

Figure 8: Summary of the percentage of 'trust' responses as a function of sound features, for insurance services



Multisensory Findings

Based on the findings from the preliminary tests, multiple web layouts were designed which incorporated either the most trusted or distrusted visual features. The two most 'trusted' colours, white and blue, and the two most 'distrusted' colours, red and yellow, were selected for the website designs. Similarly, the most 'trusted' and 'distrusted' sounds, ascending and descending tones respectively, were selected to accompany the visual features of the websites.

Websites and trust: symmetry

Customers trusted white designs significantly more than any of the other colours. Customers also trusted blue and yellow designs more than red. In fact, at the multisensory stage, yellow hue rated higher than blue in the unisensory stage.

Results revealed that customers trust symmetrical designs more than asymmetrical for both banking and insurance services. The effect of symmetry was much more pronounced for insurance websites.

As for the effect of sound, customers trusted the designs more when there were no sounds presented than when they were accompanied by either ascending or descending tones.

Figures 9 and 10 present a summary of the mean global 'trust' responses of customers for banking and insurance websites as a function of sound, symmetry and colour conditions.

Figure 9: Mean global 'trust' responses as a function of colour, symmetry and sound, for banking websites

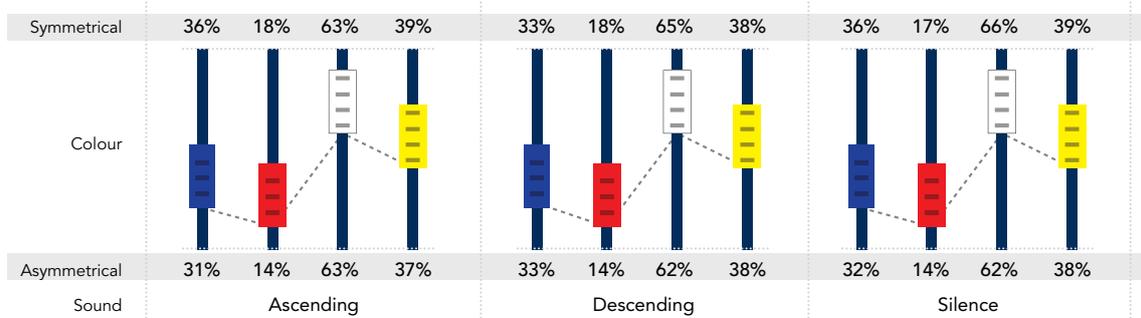
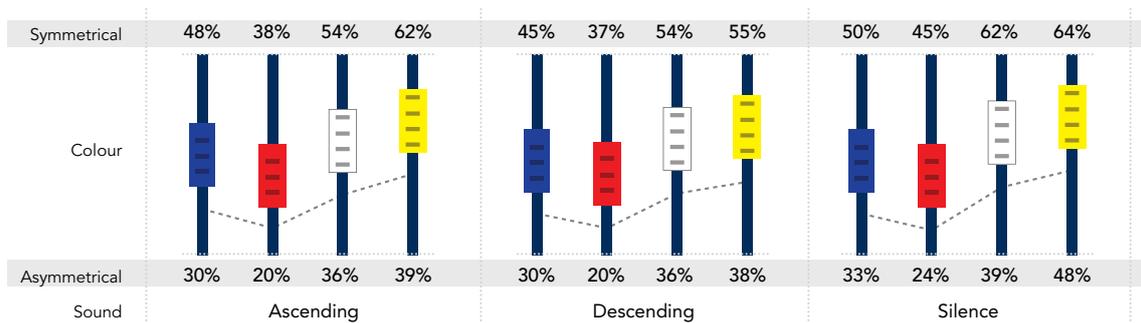


Figure 10: Mean global 'trust' responses as a function of colour, symmetry and sound, for insurance websites



Websites and trust: cross-cultural findings

We then assessed the cross-cultural effects by replicating multisensory tests in four different South East Asian countries namely Indonesia, Malaysia, Philippines and Singapore. The results indicated that the effects of colour hue in banking were significant in all four countries. Customers from all the countries trusted the white designs significantly more than any of the other colours. Yellow is the second most trusted except in Singapore. For banking websites red designs are the least trusted in all countries.

Insurance customers trusted white and yellow designs significantly more than blue and red designs in all South East Asian countries. Yellow is the most trusted colour in all countries. Customers also trusted blue designs more than red designs except in Malaysia.

Figure 11: Mean 'trust' responses as a function of colour, symmetry and sound for banking websites in Southeast Asian countries (Indonesia, Malaysia, Philippines, Singapore)

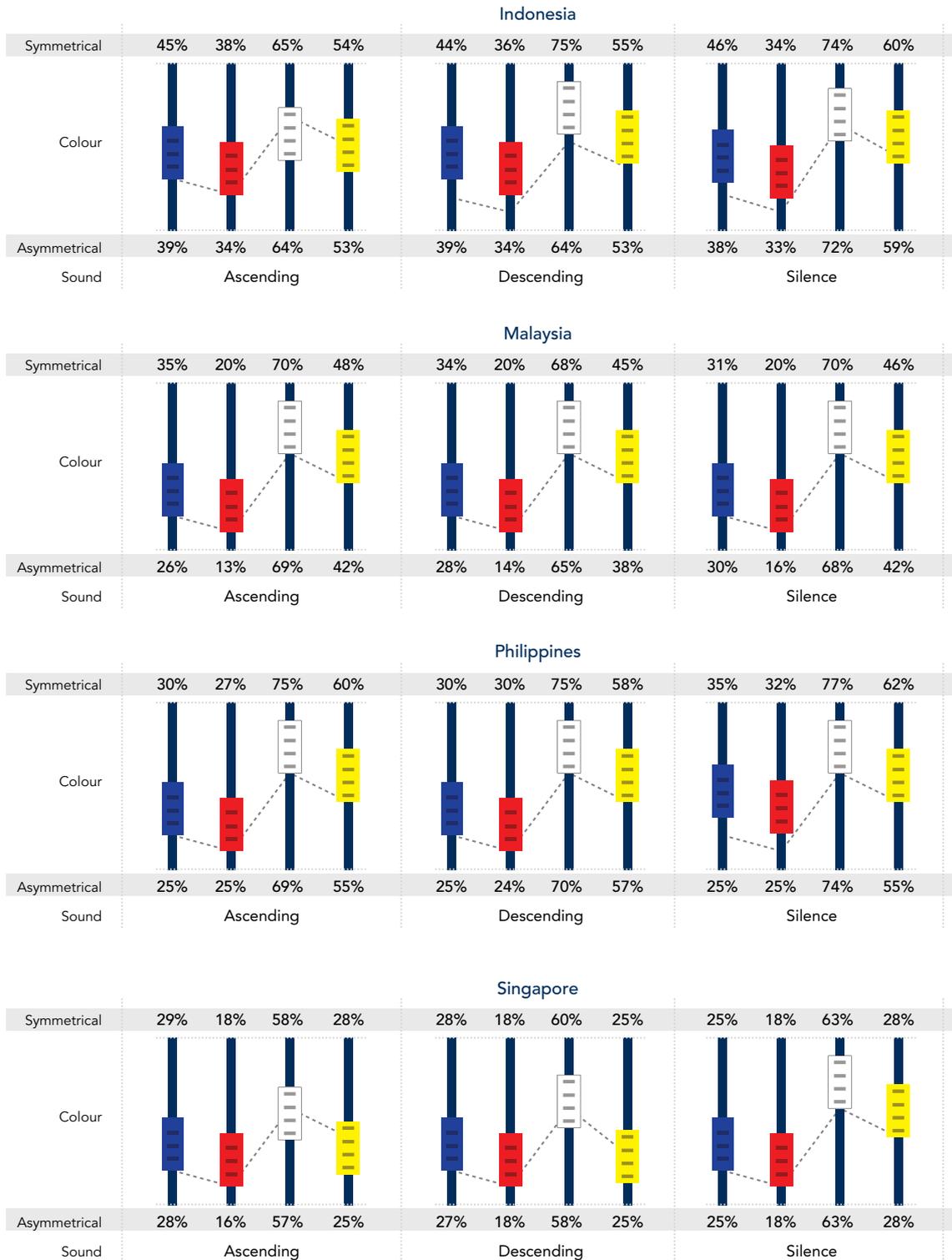
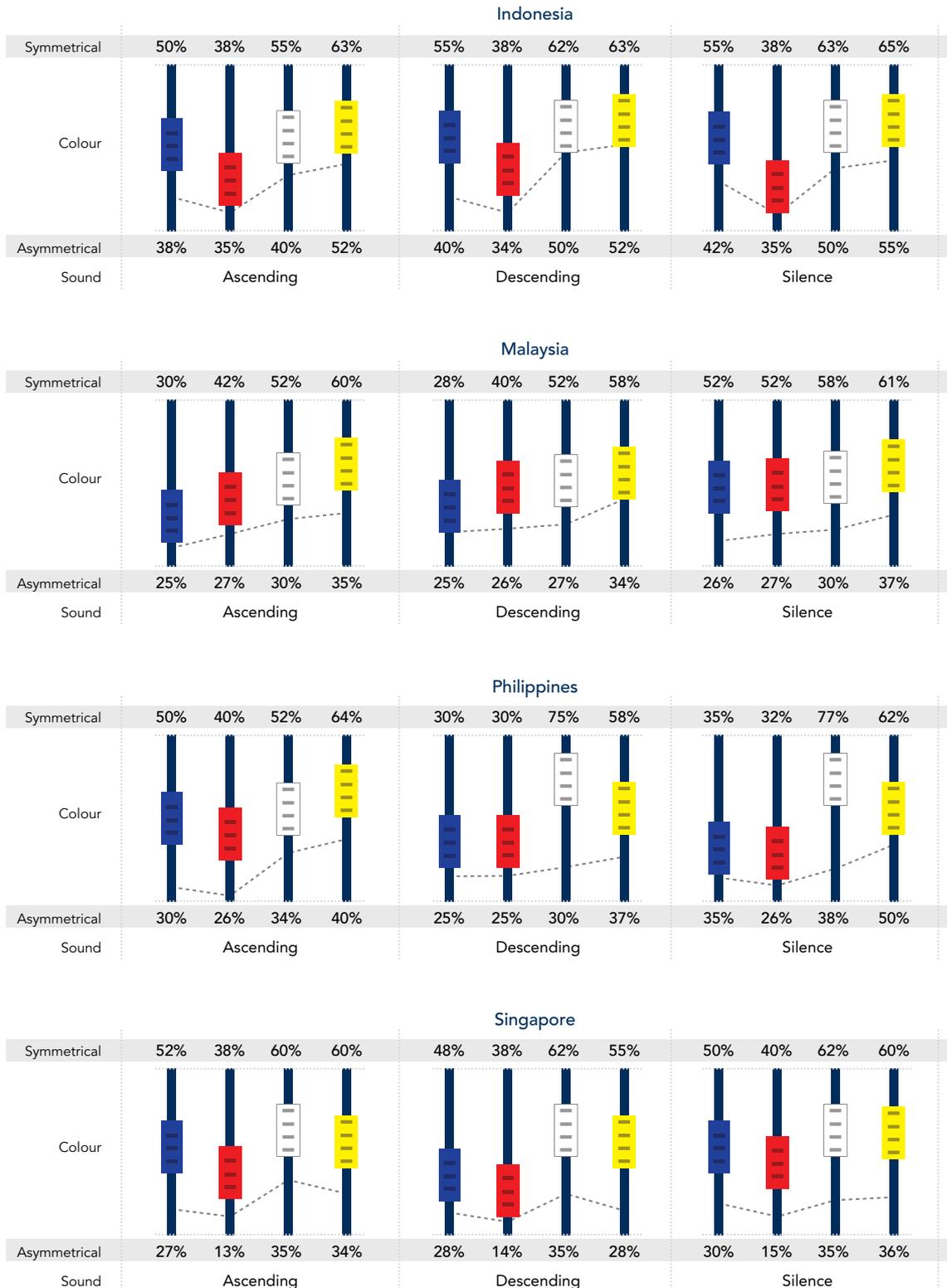


Figure 12: Mean 'trust' responses as a function of colour, symmetry and sound for insurance websites in Southeast Asian countries (Indonesia, Malaysia, Philippines, Singapore)



CONCLUSIONS AND RECOMMENDATIONS



Digital platforms are becoming increasingly central to the delivery of business strategies and customer interactions across the financial services sector. Not only do organisations need to build trust into the fabric of their digital operations, but this needs to be made known to, and appreciated by customers. Financial services organisations need to attract customers by developing a positive and trusting online ambiance. Colours, shapes and sounds can directly influence trust in online banking and insurance services, in particular colour hue and symmetry. Dull colours are trusted more than bright colours across all types of customers. Customer trust seemed higher when there were no sounds rather than either ascending or descending tones.



In general, the findings of this study indicate similar responses between regional and international samples when it comes to digital trust. However, at a more granular level, the differences between countries should not be ignored. A closer analysis reveals that customer trust varies between countries in response to certain stimuli. For example, white is the most trusted colour for banking websites in Indonesia, Malaysia, Singapore and Philippines. Customers also trusted the blue designs more than the red designs. On the other hand, customers from Indonesia, Malaysia and Philippines trusted the yellow designs for insurance websites significantly more than any other colour. Customers from Singapore trusted white designs as much as yellow designs. Red designs are the least trusted in all countries. Digital customer interaction strategies need to appeal to local and regional tastes and expectations by taking these subtle variations into account when designing websites in different countries.



Financial services organisations need to address the trust dynamics linked to digital transformation or may potentially get left behind. To be digitally savvy, companies need to be digitally trusted – by customers, suppliers, and in fact, by all stakeholders of the business. Online interaction will increasingly form a key part of any relationship between a business and its customers. Trust is essential for consumers not only to feel safe using online products and services, but more importantly, for companies to grow their customer base. In this study, we used multisensory websites to evaluate the influence of colour hue and website symmetry on trust, as well as the influence of sounds. The findings indicate that financial services institutions need to consider multisensory factors when developing their online presence. Striking the right balance may enhance consumer digital trust.

APPENDIX

Appendix: Visual stimuli used for testing trust and website interfaces

In total eight unique designs for banking and eight for insurance services were designed, combining trusted and distrusted colours, both in symmetrical and asymmetrical forms. In order to increase stimuli variability, each unique design was used four times, each time with a different service name. In total 32 web layouts were designed for banking and 32 for insurance services, each following a 2 (symmetry: symmetry vs. asymmetry) x 4 (hue: blue, white, red, yellow) x 4 (services for banking = home, banking, car, savings or insurance services = accident, disability, health, life).

Figure 13: Sample of website stimuli created in different designs



PROFILE OF RESPONDENTS

Total number of respondents N=1995.

	1 VISUAL - COLOURS	2 VISUAL - SHAPES	3 SOUND	4 MULTISENSORY	5 MULTISENSORY
 OBJECTIVES	Test colour features: hue and brightness	Test shape features: curvature and symmetry	Test sound features: volume, speed, direction and pitch	Test the joint effects of visual and sound stimuli on trust in online financial services using multiple website templates	Test the joint effects of visual and sound stimuli on trust in online financial services using multiple website templates
 TOTAL SAMPLE	392	363	267	307	666
 GENDER	158 females 234 males	156 females 207 males	85 females 182 males	113 females 194 males	248 females 418 males
 AGE	Mean age 30 years old	Mean age 31 years old	Mean age 30 years old	Mean age 29 years old	Mean age 31 years old
 SAMPLE SCOPE	International vs SE Asian	International vs SE Asian	International vs SE Asian	International vs SE Asian	Indonesia (N=144), Malaysia (N=199), Philippines (N=126), Singapore (N=197)

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