

REPORT

The digital trust index

What is the value of digital trust?
A Cebr report for Callsign

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London, March 2022

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DIGITAL TRUST REPORT

Executive summary

Callsign commissioned Cebr to conduct a study into the value of digital trust across modern economies, revealing for the first time that building digital trust drives growth in GDP.

Our analysis also reveals

1%

a one percent increase in digital trust drives



=

\$596

increase in GDP per capita



The digital trust index identified trust gaps developing between Western and non-Western economies, with non-Western markets more trusting of digital and online services than Western counterparts. Offering insight into the potential of non-Western markets to experience digital economic growth.



The economic opportunity of digital trust

Utilizing the **World Values Survey** we were able to determine that there is a concentration of high-income countries reporting the greatest degree of trust in people, and a lack of high-income countries amongst those reporting the lowest degree of trust in people, suggesting a possible link between trust and economic outcomes.

In particular, we find that a one percentage point increase in the prevalence of trust in people is associated with an average increase in GDP.

The statistically significant relationship between trust and GDP per capita is robust to the inclusion of several control variables.

Using the relationship between the prevalence of trust in people and GDP per capita, along with the results from the first section of our report covering the relationship between digital trust and societal trust, we derive an implied estimate of the economic value of digital trust.

Our analysis finds that a one percentage point increase in digital trust is associated with an average increase in GDP per capita of \$596.

We conclude that to increase GDP per capita, businesses must consider implementing digital identity systems, overseen by banks and financial institutions.



The trust gap

The research identified trust gaps defined as the difference between digital trust and societal trust. A positive gap implies that the level of digital trust exceeds the level of societal trust. Non-Western markets uniformly displayed positive trust gaps, whilst Western markets all displayed negative trust gaps, meaning they have a higher level of societal trust than digital trust.

On average, the trust gap across all nine markets stands at 3%, indicating that the average consumer across all nine markets tends to have more faith in digital services than society.

Further investigation finds a statistically significant positive relationship between improvement in societal trust levels and improvement in digital trust levels, with a one percentage point increase in societal trust corresponding to, on average, a one percentage point increase in digital trust.



Consumers' attitudes to improving digital trust

There is high expectation (47%) amongst consumers for government and the public sector to be responsible for creating a secure digital world, just as they are responsible in the physical world. Further, 68% of consumers want the creation of digital identity to improve their experiences of online services, **with most wanting banks to safeguard digital identities**. 50% of consumers believe that a regulated digital identity system will become part of consumers' daily lives within five years' time.



DIGITAL TRUST REPORT

Introduction

For the first time, the digital trust index reveals unparalleled insights into the value of digital trust across modern economies. We explore consumer attitudes towards online and digital services, and how these attitudes compare with trust in society in general. After outlining the levels of trust in digital and online services, and in society, this report quantifies a relationship between digital trust and societal trust.

Our analysis also investigated why trust levels for each of the two variables may differ in each market by calculating a trust gap, namely the difference between levels of societal trust and digital trust. Using these trust gaps, our analysis uses results from the survey to investigate the potential reasons behind the trust gap levels for each market. The digital trust index also explores whether any of the factors could best explain the variance in trust gaps across the analyzed markets.

As well as tracking the relative levels of digital trust and societal trust, this report develops a particular understanding of what drives digital trust through a bespoke index. We compared the results from the index with our analysis in section two to further illuminate the performance of each market while painting a better picture of why digital trust may be lacking or strong in a specific market. Our analysis delves deeper into the index, determining the underlying reasons behind varying scores across markets.

Section two of this report reveals consumers' attitudes to building a more secure and ethical digital society.

Section three of the report explores the relationship between trust and economic outcomes. From our analysis of the World Values Survey, we find that a higher degree of societal trust tends to be found amongst wealthier economies. To identify this relationship, we conducted econometric analyses between societal trust and GDP per head across multiple economies. The result of our analysis enables us to place a monetary figure on improvements to societal trust, while we can also combine this result with those of section one to estimate the economic benefit of widening digital trust.

About The Centre for Economics and Business Research (Cebr)

The Centre for Economics and Business Research (Cebr) is an independent consultancy with a reputation for sound business advice based on thorough and insightful research. Since 1992, Cebr has been at the forefront of business and public interest research. They provide analysis, forecasts and strategic advice to major UK and multinational companies, financial institutions, government departments and agencies and trade bodies. For further information about Cebr please visit www.cebr.com.



About Callsign

Callsign is pioneering digital trust through proprietary technology that uniquely mimics the way humans identify each other in the real world.

Positive identification of genuine users delivers privacy, safety and minimal friction whilst ensuring that bad actors are blocked. Through a simple Swipe or Type, users can be personally recognized to a 99.999% accuracy, delivering the highest-fidelity AI-based user recognition for the digital world.



To learn more about how this technology is used to underpin digital trust across financial institutions, governments and commerce globally visit: www.callsign.com

SECTION ONE

The trust gap

In this section, Cebr explores how consumer attitudes to digital and societal trust vary across different demographic markets. Our analysis uses data from a bespoke survey conducted by 3Gem¹ to explore trust levels in digital online services, and general confidence in society. Cebr analysis presented in this section estimates the relationship between trust levels in digital services and trust levels in society.

1.1 Trust in digital and online services

The bespoke survey enquired about consumers' trust in online and digital services and provides an overview of how online and digital confidence varies across different markets, as seen in Figure 1. There is significant variation in online and digital trust across regions, with a 30.7 percentage point gap between the region with the highest level of trust and the market with the lowest level of trust. The Nordics rank first, with most consumers surveyed in the region (59%) trusting online and digital services. The regions of Middle East and Africa (ME&A) and Asia-Pacific (APAC) round up the top three, registering trust shares of 56% and 45% respectively. Meanwhile, Brazilian consumers display the least confidence in digital and online services, with roughly a quarter (28%) having faith in such services.

1.2 Trust in society

The survey also enquired about levels of societal trust displayed by consumers in their respective markets, and the results are depicted in Figure 2. As with attitudes towards online and digital services, the Nordics rank first, with 57% of consumers stating that most people can be trusted in real-world circumstances, 13 percentage points higher than the next closest market. Similarly, South Africa (14%), Brazil (23%) and the United States of America (USA) (37%) round up the bottom three once more as in consumers' attitudes towards online and digital trust, though South Africa is the least trusting market this time round, as compared to Brazil when it came to digital trust.

¹ The methodology for this report involved conducting a survey to measure levels of trust in online and digital services across nine key regional markets. As part of the report, further questions were asked about trust in the wider society to be able to analyse differences and common trends. Research was carried out by 3Gem in February 2022.

Samples were as follows: APAC 2,500 (Hong Kong 500, Singapore 500, Indonesia 500, India 500 and the Philippines 500); Benelux 1500 (Belgium 500, Netherlands 500 and Luxembourg 500); Brazil 1,000; Canada 2,000; Middle East and Africa 3,000 (UAE 500, Kingdom of Saudi Arabia 500, Qatar 500, Bahrain 500 and South Africa 1,000; Nordics 500; UK 1,000; USA 2,000

Figure 1: Breakdown of share of consumers on their attitudes towards online and digital services, by market

Source: 3Gem, Cebr analysis

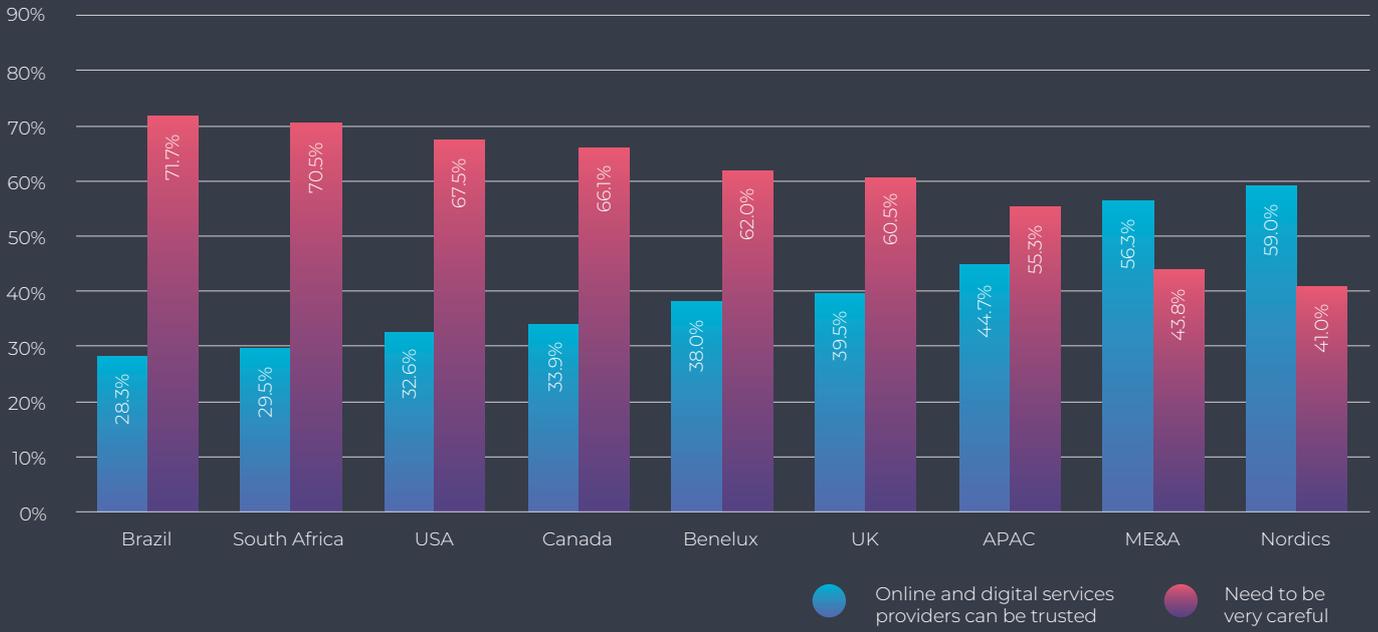
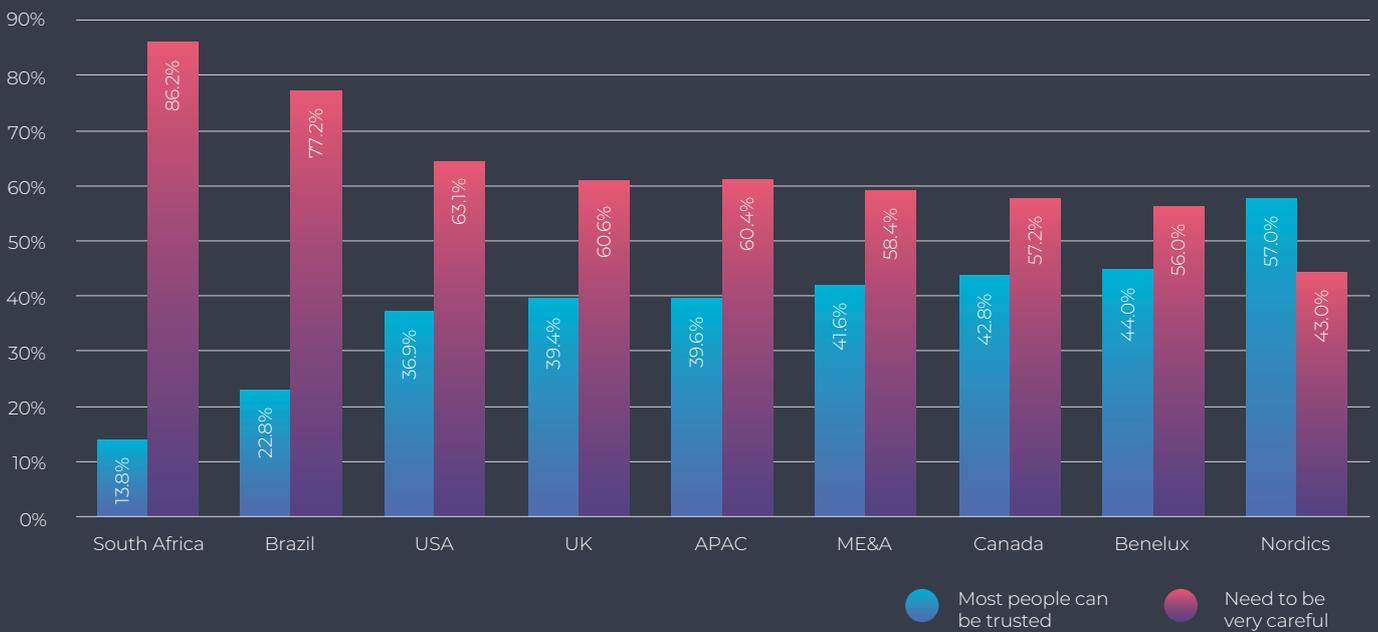


Figure 2: Breakdown of share of consumers on their attitudes towards society, by market

Source: 3Gem, Cebr analysis



1.3 Quantifying the relationship between societal trust and digital trust

The next step of our analysis focused on determining whether a correlation between societal trust and digital trust could be established from the markets analyzed. We did so by running a regression of societal trust on digital trust based on the results obtained in subsection 1.1 and 1.2, for consumer attitudes towards and towards online and digital trust, and society.

Our analysis, as depicted in Figure 3, found a positive correlation between the two variables, with a one percentage point increase in digital trust share contributing to a 0.8 percentage point increase in societal trust levels. This relationship is statistically significant at the 5% confidence level.

Moreover, the R² value shown in Figure 3 suggests that 55% of the variance in level of societal trust can be explained by consumer attitudes towards online and digital services.²

Observing the relative positions of each market reveals some interesting insights. The Western markets, except for the Nordics, are largely grouped within the same area, exhibiting similar levels of societal and digital trust. Moreover, the United Kingdom (UK) specifically stands out, given consumers in the market have roughly the same levels of societal and digital trust.

Additionally, while Brazil and South Africa possess similar levels of digital trust, there is a pronounced divide in consumers' attitudes towards society in the respective markets, with Brazil reporting a higher share of societal trust. While the relationship detailed in Figure 3 may provide a general overview of how societal trust and digital trust may

be related across the globe, it fails to provide market-specific insight into the relative levels of societal and digital trust. As such, our analysis sought to do so by calculating a trust gap – defined as the difference between societal trust levels and digital trust levels – for each market. This would allow for a fairer comparison across markets by filtering out societal idiosyncrasies and cultural differences that could feed into consumer attitudes towards society and online services, while allowing us to investigate the reasons for disparity in trust within a specific market. A negative value indicates that, for a certain market, the level of societal trust is higher than the level of digital trust. Conversely, a positive gap suggests that digital trust is higher than societal trust.

Figure 4 depicts the breakdown of trust gaps by market. The non-Western markets of South Africa (16%), ME&A (15%), Brazil (6%) and APAC (5%) yield positive trust gaps (the level of digital trust in each market is markedly higher than the level of societal trust in the same market), with South Africa reporting the highest trust gap reading. Meanwhile, the USA (-4%), Benelux (-6%) and Canada (-9%) return negative trust gaps, suggesting that consumers in each of the markets possess less confidence in online and digital services as they do in society. On average, the trust gap across all nine markets stands at 3%, indicating that the average consumer across all nine markets tends to have more faith in digital services than society.

² In this instance, R² measures the strength of the relationship between levels of societal trust levels of digital trust. For any model, R² assumes a value of between 0% and 100%. An R² value of 100% would suggest that levels of societal trust in a certain market can be completely explained by that market's level of digital trust. This would be reflected by a perfect straight line fit in Figure 7. Meanwhile, an R² value close to 0% would suggest no meaningful relationship between the two variables.

Figure 3: Level of societal trust and level of digital trust, by market

Source: 3Gem, Cebr analysis

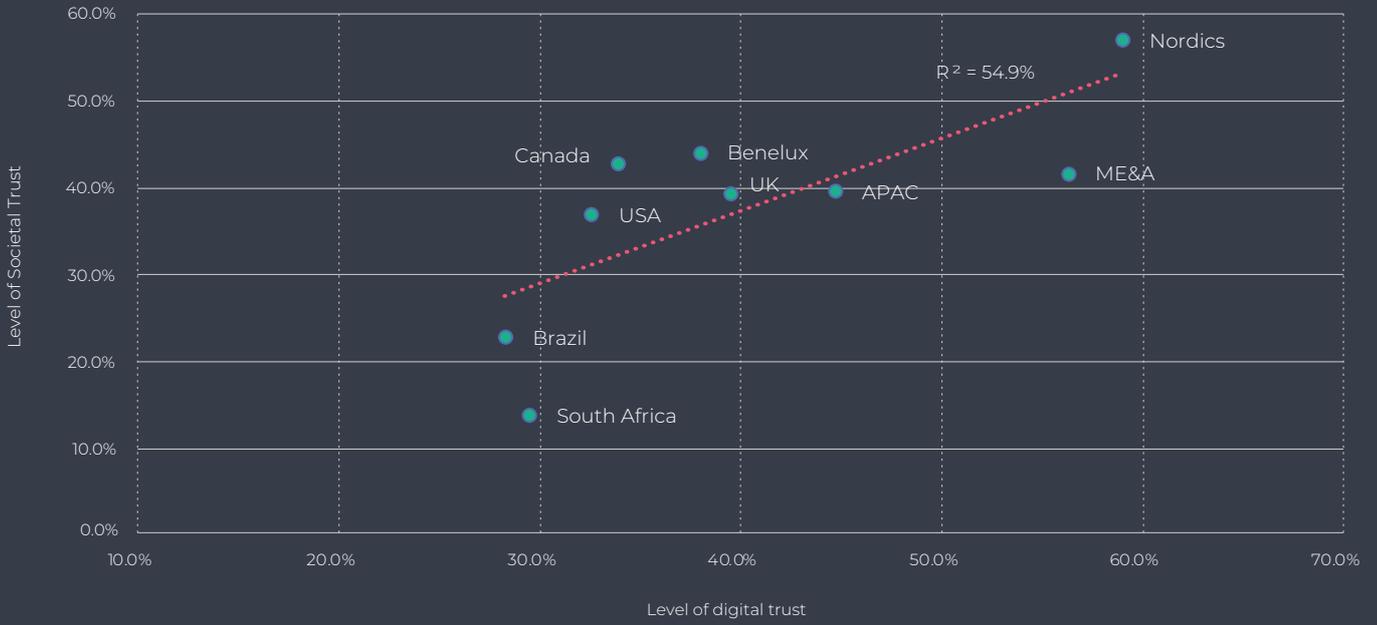
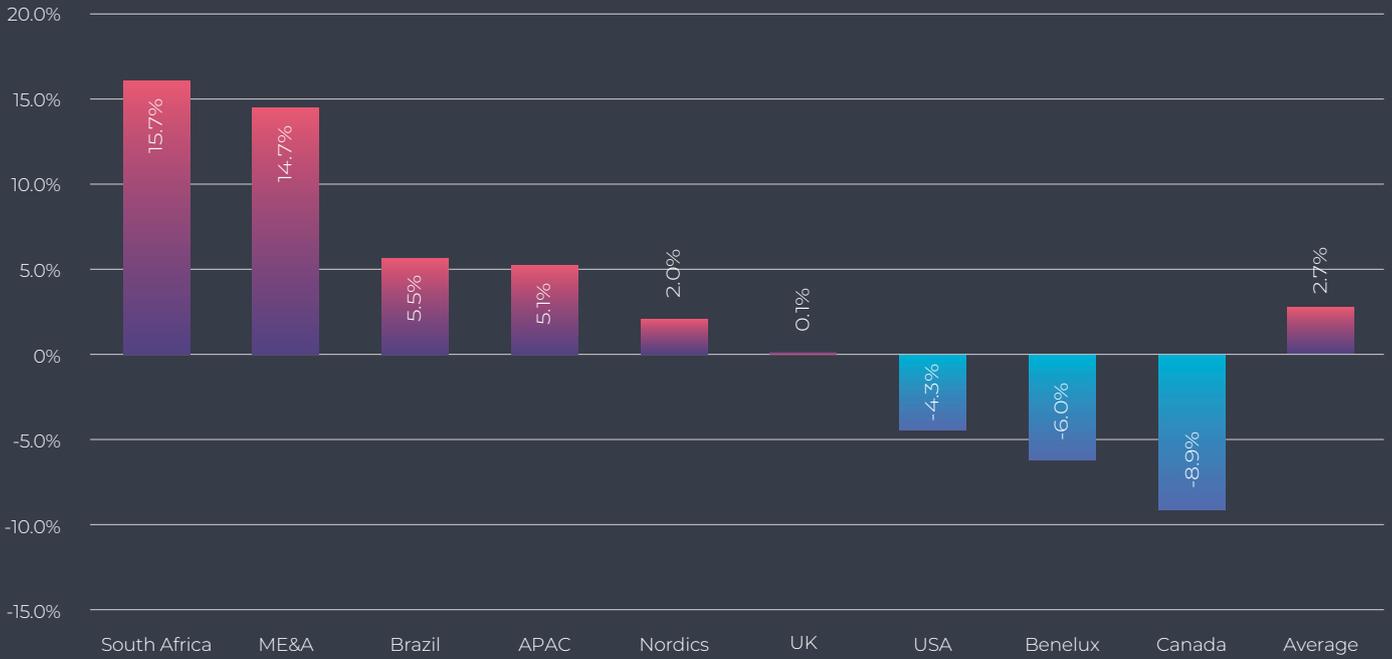


Figure 4: Breakdown of trust gap, by market

Source: 3Gem, Cebr analysis



1.4 Factors affecting market trust gaps

To investigate the reasons behind each market's trust gap, we enquired about consumers' experience using online and digital services. More specifically, we asked consumers on the salient factors that have negatively impacted their trust in online services. These factors include experiences of online fraud and personal data breaches, the lack of transparency online or knowing another person who has a history of negative online experiences, with the results illustrated in Figure 5.

We found that consumers in the USA have reported the highest combined share of online fraud and personal data breaches, at 36%, being the main source of negative impact on digital trust. Moreover, the market also takes top spot in terms of the share of consumers who have experienced a personal data breach. The higher prevalence of fraud amongst consumers in the American market is likely to have depressed trust in digital and online services, thereby explaining the negative trust gap attained in Figure 4.

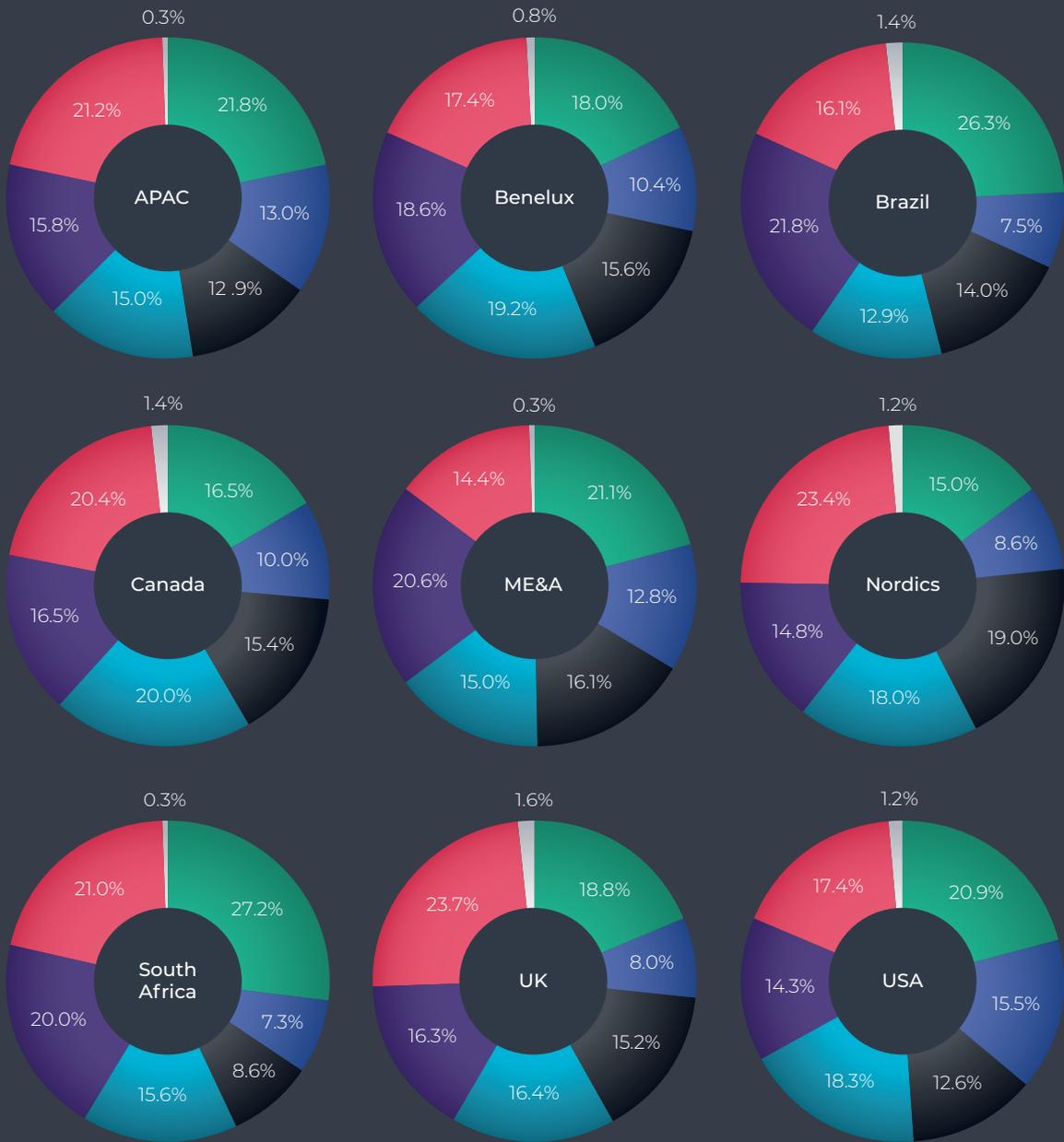
The Benelux market reports a much lower combined share of online fraud and personal data breaches being the negative source of online trust, at 28%, placing the market in the bottom half. This result is supported by Benelux's position in the index for the indicators of online fraud occurrence and online data breach occurrence, with the market ranking in the top four for both indicators. Nonetheless, Benelux's negative trust gap could be attributed to relatively larger shares of consumers citing lack of transparency in online and digital services, and consumers not being able to use online and digital services safely, with the former being the most frequently cited factor amongst consumers in Benelux. The share of consumers in the Benelux market citing the two factors as key reasons behind their lower negative trust stands at 19% and 16% respectively, enough to place the Benelux in the top three markets for each of the two factors.

Meanwhile, the Canadian market reports the largest share of consumers who cite the lack of transparency in online and digital services as the key factor that has negatively impacted trust in said services at 20%. Moreover, the share of consumers who reported the lack of transparency is tied with the share of consumers who read about others' negative experiences with online and digital services as the most cited factor within the Canadian market itself.

It is also worth noting that the lack of transparency is the only factor that exhibits a statistically significant negative relationship with trust gap levels across all markets, with our analysis noting that a percentage point increase in the share of consumers reporting the lack of transparency as an integral factor, and on average leads to a 2.8 percentage point decline in trust gaps.

Figure 5: Breakdown of the main factors that have negatively impacted online and digital trust, by market

Source: 3Gem, Cebr analysis



Key

- I have had an experience of online fraud
- I have experienced a personal data breach
- I don't always feel I always know how to use online and digital services safely
- There is a lack of transparency in online and digital services
- Knowing other people who have had a negative experience with online and digital services
- Reading about other people who have had a negative experience with online and digital services
- Other

To understand the divide in digital experience further, our survey enquired about the factors that have positively contributed to consumers' online and digital trust. These factors include good experiences with online businesses, online security measures implemented by businesses or by self and word-of-mouth regarding positive online experiences. The results from the survey are summarized in Figure 6.

The regions of APAC and ME&A saw 37% and 36% of consumers attribute positive movements in their digital trust to good experiences with online and digital businesses, the highest shares across all markets.

Moreover, 42% and 34% of consumers in South Africa and Brazil respectively attributed their improvement in digital services to online security measures that have been put in place by businesses. The two countries are also the best performing markets in terms of authentication security in our index, with scores of 72.0 and 70.3 respectively.

It is also worth noting that the good experiences with online and digital businesses is the only factor that exhibits a statistically significant positive relationship with net improvement in digital trust levels across all markets, with our analysis noting that a percentage point increase in the share of consumers reporting good experience with online and digital businesses as an integral factor, on average, leads to a 2.2 percentage point rise in trust gaps.

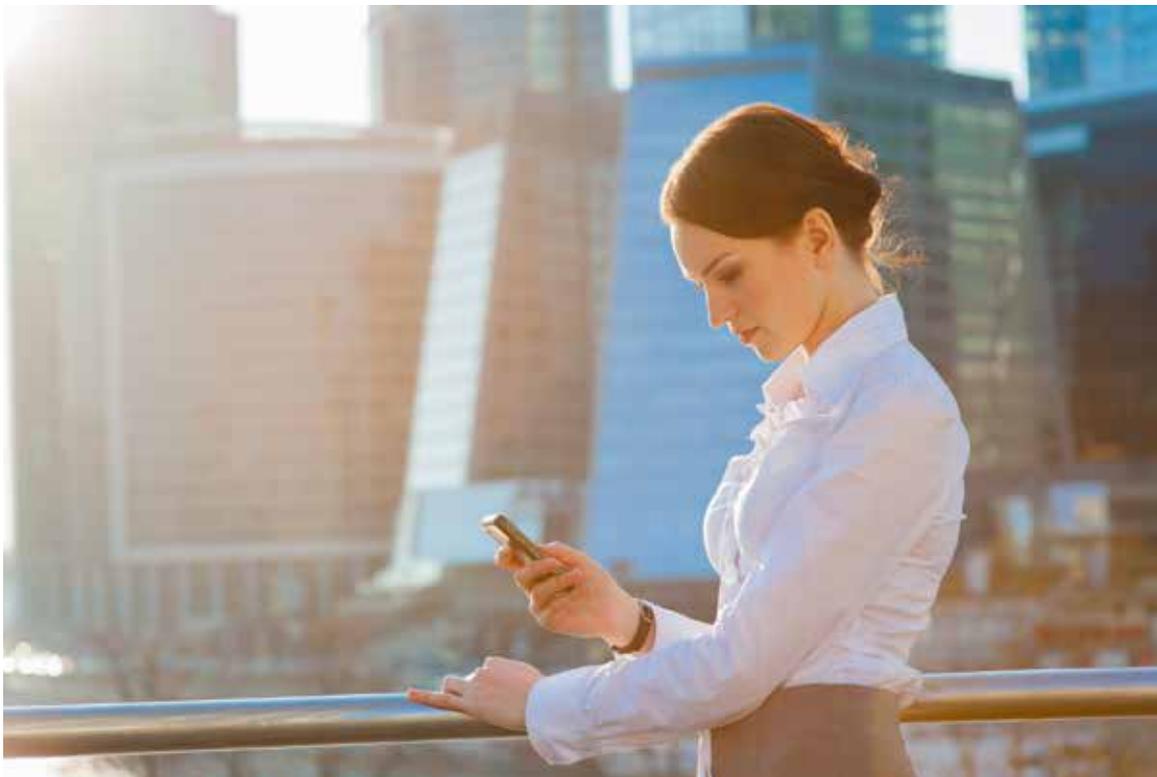


Figure 6: Breakdown of factors that have positively impacted digital trust, by market

Source: 3Gem, Cebr analysis



Key

- Good experiences with online and digital businesses
- Online security measures that have been put in place by businesses
- Online security measures that I have put in place
- Hearing about positive experiences that other people have had
- Other



SECTION TWO

How to improve the digital trust gap

This section explores consumers' attitudes towards improving the digital trust gap highlighted in section 1. We explore the appetite for a regulated digital identity system to increase safety and reduce fraud online and analyze consumer sentiment regarding who should create and maintain such a system.

2.1 Creating a secure, digital world

We asked consumers which organizations should have the responsibility for creating a secure digital world that provides, privacy, security, reliability, and data ethics in online programs or devices. 47% said that government and public sector should be responsible for its creation, followed by banks / financial institutions (28%).

2.2 Creating a regulated digital identity system

In order to understand how consumers want to improve the emerging digital trust gap, we enquired about their attitudes towards the creation of a digital identity system. Such a system would involve technology, processes and data policies managed and overseen by an independent body to verify a users' identity online. 68% of consumers surveyed reported interest in the creation of a digital identity system, with South Africa and APAC showing strong favor (80% and 79% respectively).

Assuming a regulated digital identity system were to be created, consumers would most trust banks and financial services (30%) to create and maintain the system.

2.3 An imminent reality

With the ongoing shift to digital, 50% of consumers believe that a regulated digital identity system will become part of consumer's daily lives within five years. Over 27% expect this to happen within the next year, while 23% were unsure if it would ever happen at all.

SECTION THREE

The economic opportunity of digital trust

Returning to our survey-based analysis in Section 1 of this report, we found that a 1.0 percentage point increase in digital trust was associated with a 0.8 percentage point increase in societal trust. This relationship is statistically significant at the 5% level.

In the following sections we have outlined our findings that a 1.0 percentage point increase in societal trust is also associated with a \$716 increase in PPP-adjusted GDP per capita. This relationship is statistically significant at the 5% level. We have combined these two results to give an estimate for the GDP per-capita impact of an improvement in a country's prevalence of digital trust.

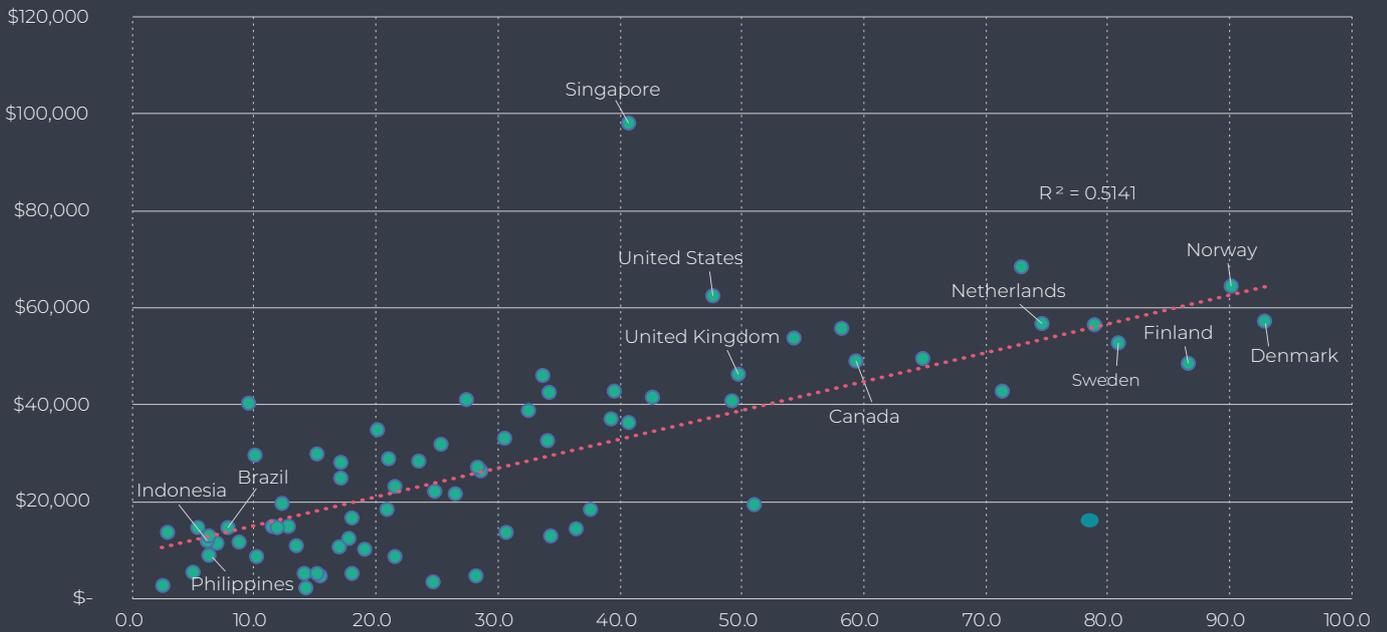
In doing so, we found that a percentage point increase in digital trust is associated with an average increase in PPP-adjusted GDP per capita of \$596². The resultant positive relationship between digital trust and GDP per capita is illustrated by the upward trend line in the table on page 21.

Scaling this up, an increase in digital trust prevalence of 5.0 percentage points is associated with an average GDP per capita increase of approximately \$3,000. We can apply this \$3,000 figure to the list of sample countries to estimate the associated rise in GDP that increased digital trust could potentially have on those particular economies³.

The following provides an example of how the modeling in figure 7 can be used to show the economic impacts of increased digital trust. According to the World Values Survey, Brazil's prevalence of societal trust currently stands at 6.6%. From our identified relationship between societal and

Figure 7: Scatter plot showing model-implied proportion of population reporting digital trust and 2019 GDP per capita in PPP terms

Source: World Values Survey, 3Gem, Cebr analysis



digital trust, this suggests that the prevalence of digital trust is approximately 7.9%. Via the relationship identified between digital trust and GDP per capita, using societal trust as an instrument, we can consider the potential impact of an increase to this digital trust prevalence. For instance, if digital trust were five percentage points higher – that is, a prevalence of 12.9% – then Brazil’s GDP per capita would be expected to stand at \$17,800. This compares to the country’s actual value of \$14,800, representing an increase of 20.2%.

² Though this does not take the form of a regression between digital trust and GDP per capita, and thus we cannot prescribe a direct relationship, the link between societal trust and both digital trust and GDP per capita means that this can be used as an instrument between the variables.

³ It is important to caution that these estimates are not identified as causal, or a forecast, and merely reflect the application of the average coefficient across all countries to each individual country analyzed within our sample.



As another example, Denmark's societal trust according to the World Values Survey stands at 77.4%. The identified relationship between societal and digital trust suggests a prevalence of digital trust of approximately 92.9%. If this digital trust prevalence were to increase by five percentage points, this would yield an expected GDP per capita value of \$60,100. This compares to Denmark's actual value of \$57,200, representing an increase of 5.2%.

The following table presents similar analysis of some of the countries considered in the survey section of the report.

Country	Model-implied prevalence of digital trust, %	Prevalence of digital trust after hypothetical increase of 5 percentage points, %	GDP per capita, 2019, \$PPP	Model-implied GDP per capita, 2019, \$PPP	Divergence
Australia	64.8	69.8	\$ 49,456	\$ 52,438	6.0%
Austria	58.1	63.1	\$ 55,833	\$ 58,816	5.3%
Brazil	7.9	12.9	\$ 14,759	\$ 17,741	20.2%
Canada	59.4	64.4	\$ 49,017	\$ 52,000	6.1%
China	78.5	83.5	\$ 16,092	\$ 19,075	18.5%
Denmark	92.9	97.9	\$ 57,162	\$ 60,144	5.2%
Egypt, Arab Rep.	8.8	13.8	\$ 11,763	\$ 14,745	25.4%
Finland	86.6	91.6	\$ 48,563	\$ 51,545	6.1%
France	33.7	38.7	\$ 46,018	\$ 49,000	6.5%
Germany	54.3	59.3	\$ 53,809	\$ 56,791	5.5%
Indonesia	6.2	11.2	\$ 11,812	\$ 14,794	25.2%
Jordan	19.1	24.1	\$ 10,071	\$ 13,054	29.6%
Malaysia	23.4	28.4	\$ 28,364	\$ 31,347	10.5%
Netherlands	74.6	79.6	\$ 56,784	\$ 59,766	5.3%
Norway	90.1	95.1	\$ 64,453	\$ 67,435	4.6%
Pakistan	28.2	33.2	\$ 4,690	\$ 7,673	63.6%
Philippines	6.4	11.4	\$ 8,915	\$ 11,897	33.5%
Singapore	40.7	45.7	\$ 97,989	\$ 100,971	3.0%
Sweden	80.8	85.8	\$ 52,851	\$ 55,833	5.6%
Thailand	37.6	42.6	\$ 18,451	\$ 21,433	16.2%
United Kingdom	49.6	54.6	\$ 46,406	\$ 49,389	6.4%
United States	47.7	52.7	\$ 62,555	\$ 65,537	4.8%

DIGITAL TRUST REPORT

Conclusion

The digital trust index: the value of digital trust provides unique insight into the levels of digital trust across modern economies.

Our research identified a statistically significant, positive relationship between digital trust and societal trust, with a one percentage point increase in digital trust resulting in, on average, a 0.8 percentage point increase in societal trust.

Further analysis also investigated why trust levels for each of the two variables may differ in each market by calculating a trust gap, i.e. the difference between societal trust levels and digital trust levels, where a positive gap implies that digital trust exceeds societal trust.

On average, the trust gap across all nine markets stands at 3%, indicating that the average consumer across all nine markets tends to have more faith in digital services than society.

Consumers are acutely aware of the problems that they face online, citing governments' responsibilities for creating a secure digital environment that safeguards individuals' data and privacy – and above all, one that is ethically designed. Consumers also desire a regulated identity system opting for banks to safeguard digital identities.

Finally, in section 3 we explored the idea of the value of increased digital trust. Using econometric analysis, we found there is an instrumental relationship between digital trust and GDP per capita, via their respective relationships with societal trust. A 1.0 percentage point increase in an economy's prevalence of digital trust is associated with an average increase to GDP per capita of \$596.

Greater digital trust is associated with greater societal trust, which in turn is a driver of wealth across economies. For this reason, businesses must invest in building digital trust. With modern consumers demanding seamless, secure, privacy-preserving and ethical experiences in their digital lives, trust must be built into every digital experience and transaction. As outlined in our report, the private sector, particularly banks and financial services organizations are looked to, for the provision of secure digital identities, whilst governments are expected to create secure digital worlds. Therefore, these institutions must work together to create secure and protected digital identities, capable of building trust and respecting privacy.





Balancing security, UX & privacy is easier than you think.
Find out how we can help you on your journey to
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capabilities: sales@callsign.com

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