



**2016 ISACA IT Risk/Reward Barometer —
Singapore Consumer Results**

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www.isaca.org/risk-reward-barometer

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1. Which of the following best describes your employment status? (Please select ONE.)

	Total
<i>BASE - TOTAL RESPONDENTS</i>	<i>1000</i>
Full-time employee	65%
Student	8%
Self-employed (either full- or part-time)	8%
Retired	6%
Part-time employee	6%
Homemaker	4%
Not employed	3%
Prefer not to answer	1%

2. How knowledgeable would you describe yourself in identifying devices that are considered part of the “Internet of Things”? (Please select ONE.)

	Total
<i>BASE - TOTAL RESPONDENTS</i>	<i>1000</i>
Top 2 Box (Net)	78%
Very knowledgeable (4)	15%
Somewhat knowledgeable (3)	63%
Bottom 2 Box (Net)	22%
Not very knowledgeable (2)	19%
Not at all knowledgeable (1)	3%

3. Which of the following “Internet of Things” devices, if any, do you own? (Please SELECT ALL that apply.)

	Total
<i>BASE - TOTAL RESPONDENTS</i>	<i>1000</i>
Smart TV (e.g., Apple TV, Samsung Smart TV)	56%
Cameras that connect to the Internet (e.g., WiFi-enabled video or digital cameras that can directly upload photos to the Internet/cloud)	33%
Employee access card with sensor	30%
Wireless fitness tracker (e.g., Fitbit, FuelBand)	28%
Smart watch	24%
Connected car (e.g., car with Internet connection, GPS system or electronic toll collection device)	20%
Internet-connected audio/stereo speakers	17%
Smart weight scale	12%
Internet-connected home alarm system	10%
Internet-connected children’s toys (e.g., WiFi-connected toys that can record and talk back to children and may feature microphones, cameras, speakers and motors)	8%
Internet-connected medical device (e.g., heart monitor)	7%
Internet-connected door locks	7%
Smart meter (e.g., an Internet-connected thermostat or utility meter)	5%
Internet-connected garage door opener	5%
Internet-connected baby monitor	5%
Internet-connected refrigerator	5%
Other	2%
You do not own any "Internet of things" devices	19%

4. Which of the following “Internet of Things” devices, if any, would you like to get in the next 12 months? (Please SELECT ALL that apply.)

	Total
<i>BASE – DO NOT OWN THE IOT DEVICE IN Q3</i>	<i>Base varies</i>
Smart TV (e.g., Apple TV, Samsung Smart TV)	36%
Smart watch	32%

Cameras that connect to the Internet (e.g., WiFi-enabled video or digital cameras that can directly upload photos to the Internet/cloud)	18%
Wireless fitness tracker (e.g., Fitbit, FuelBand)	17%
Internet-connected door locks	15%
Internet-connected home alarm system	15%
Smart weight scale	13%
Connected car (e.g., car with Internet connection, GPS system or electronic toll collection device)	11%
Internet-connected audio/stereo speakers	10%
Internet-connected refrigerator	10%
Internet-connected medical device (e.g., heart monitor)	10%
Smart meter (e.g., an Internet-connected thermostat or utility meter)	8%
Employee access card with sensor	5%
Internet-connected children's toys (e.g., WiFi-connected toys that can record and talk back to children and may feature microphones, cameras, speakers and motors)	5%
Internet-connected baby monitor	4%
Internet-connected garage door opener	4%
Other	1%
None of the above	27%

5. How knowledgeable would you describe yourself in identifying “Internet of Things” devices that have been enhanced with Augmented Reality (e.g., AR-Enhanced Internet of Things)? (Please SELECT ONE.)

	Total
<i>BASE - TOTAL RESPONDENTS</i>	<i>1000</i>
Top 2 Box (Net)	56%
Very knowledgeable (4)	8%
Somewhat knowledgeable (3)	49%
Bottom 2 Box (Net)	44%
Not very knowledgeable (2)	34%
Not at all knowledgeable (1)	9%

6. Below are some hypothetical applications of augmented reality in daily life, using Internet of Things devices. Please indicate to what extent you agree or disagree each would improve your own life. (Please SELECT ONE for each.)

AGREE (TOP-2-BOX – COMPLETELY OR SOMEWHAT)	Total
<i>BASE - TOTAL RESPONDENTS</i>	<i>1000</i>
Training guides (e.g., step-by-step graphical overlays helping you to learn a new skill for personal or professional development)	82%
Retail geolocation (e.g., GPS device that efficiently guides you to the items on your shopping list within a store)	81%
Healthcare geolocation (e.g., GPS app that identifies where an AED/defibrillator device is available in the immediate vicinity)	80%
Home decoration (e.g., projection of décor, to help you plan out room design)	77%
Gaming/interactive entertainment (e.g., gaming applications similar to Pokémon Go)	59%
Holographic web chats	56%

DISAGREE (BOTTOM-2-BOX – COMPLETELY OR SOMEWHAT)	Total
<i>BASE - TOTAL RESPONDENTS</i>	<i>1000</i>
Gaming/interactive entertainment (e.g., gaming applications similar to Pokémon Go)	32%
Holographic web chats	28%
Home decoration (e.g., projection of décor, to help you plan out room design)	15%
Retail geolocation (e.g., GPS device that efficiently guides you to the items on your shopping list within a store)	13%
Training guides (e.g., step-by-step graphical overlays helping you to learn a new skill for personal or professional development)	12%
Healthcare geolocation (e.g., GPS app that identifies where an AED/defibrillator device is available in the immediate vicinity)	11%

DON'T KNOW	Total
<i>BASE - TOTAL RESPONDENTS</i>	<i>1000</i>
Holographic web chats	16%
Gaming/interactive entertainment (e.g., gaming applications similar to Pokémon Go)	9%
Home decoration (e.g., projection of décor, to help you plan out room design)	8%
Healthcare geolocation (e.g., GPS app that identifies where an AED/defibrillator device is available in the immediate vicinity)	8%
Training guides (e.g., step-by-step graphical overlays helping you to learn a new skill for personal or professional development)	7%
Retail geolocation (e.g., GPS device that efficiently guides you to the items on your shopping list within a store)	6%

7. Generally, how concerned, if at all, are you that potential Augmented Reality enhancements may make your “Internet of Things” device(s) more vulnerable to a privacy breach? (Please SELECT ONE.)

	Total
<i>BASE – OWN IOT DEVICE IN Q3</i>	<i>806</i>
Top 2 Box (Net)	89%
Very concerned (4)	32%
Somewhat concerned (3)	57%
Bottom 2 Box (Net)	11%
Not very concerned (2)	11%
Not at all concerned (1)	1%

8. Below are some potential benefits of augmented reality in the workplace. Considering your own work, please indicate to what extent augmented reality would likely provide you this benefit. (Please SELECT ONE for each.)

DEFINITELY	Total
<i>Augmented reality enhancements in your workplace would likely help to increase ...</i>	
BASE - EMPLOYED RESPONDENTS	788
Remote participation in workplace learning and development (e.g. continuing education or certification)	25%
Communication between office leaders and staff	24%
Engagement during office training sessions	23%
Visibility among new customers	19%

PROBABLY	Total
<i>Augmented reality enhancements in your workplace would likely help to increase ...</i>	
BASE - EMPLOYED RESPONDENTS	788
Remote participation in workplace learning and development (e.g. continuing education or certification)	57%
Engagement during office training sessions	56%
Visibility among new customers	55%
Communication between office leaders and staff	55%

PROBABLY NOT	Total
<i>Augmented reality enhancements in your workplace would likely help to increase ...</i>	
BASE - EMPLOYED RESPONDENTS	788
Visibility among new customers	16%
Engagement during office training sessions	15%

Communication between office leaders and staff	15%
Remote participation in workplace learning and development (e.g. continuing education or certification)	12%

DEFINITELY NOT	Total
<i>Augmented reality enhancements in your workplace would likely help to increase ...</i>	
BASE - EMPLOYED RESPONDENTS	788
Visibility among new customers	3%
Engagement during office training sessions	2%
Remote participation in workplace learning and development (e.g. continuing education or certification)	2%
Communication between office leaders and staff	2%

DON'T KNOW	Total
<i>Augmented reality enhancements in your workplace would likely help to increase ...</i>	
BASE - EMPLOYED RESPONDENTS	788
Visibility among new customers	6%
Engagement during office training sessions	5%
Remote participation in workplace learning and development (e.g. continuing education or certification)	5%
Communication between office leaders and staff	5%

9. Below are some hypothetical applications of augmented reality in the workplace, using Internet of Things devices. Please indicate to what extent you agree or disagree each would make it easier to do your job. (Please SELECT ONE for each.)

AGREE (TOP-2-BOX – COMPLETELY OR SOMEWHAT)	Total
<i>BASE - EMPLOYED RESPONDENTS</i>	788
Workplace trainings (e.g., step-by-step graphical overlays teaching workplace skills or providing safety guidance based on environmental stimuli)	85%
Workplace safety guide (e.g., graphical overlays providing safety guidance/alerts based on environmental stimuli)	84%
Product demonstrations (e.g., allow potential customers to virtually try out or compare products such as in-car dashboards or tablet graphical interfaces before purchasing)	83%
Inventory geolocation (e.g., GPS device that efficiently guides you to items in a workplace storage center/warehouse)	81%
Holographic conference calls	72%

DISAGREE (BOTTOM-2-BOX – COMPLETELY OR SOMEWHAT)	Total
<i>BASE - EMPLOYED RESPONDENTS</i>	788
Holographic conference calls	19%
Inventory geolocation (e.g., GPS device that efficiently guides you to items in a workplace storage center/warehouse)	12%
Product demonstrations (e.g., allow potential customers to virtually try out or compare products such as in-car dashboards or tablet graphical interfaces before purchasing)	11%
Workplace trainings (e.g., step-by-step graphical overlays teaching workplace skills or providing safety guidance based on environmental stimuli)	10%
Workplace safety guide (e.g., graphical overlays providing safety guidance/alerts based on	10%

environmental stimuli)	
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DON'T KNOW/NOT APPLICABLE	Total
<i>BASE - EMPLOYED RESPONDENTS</i>	788
Holographic conference calls	10%
Inventory geolocation (e.g., GPS device that efficiently guides you to items in a workplace storage center/warehouse)	7%
Product demonstrations (e.g., allow potential customers to virtually try out or compare products such as in-car dashboards or tablet graphical interfaces before purchasing)	6%
Workplace safety guide (e.g., graphical overlays providing safety guidance/alerts based on environmental stimuli)	6%
Workplace trainings (e.g., step-by-step graphical overlays teaching workplace skills or providing safety guidance based on environmental stimuli)	5%

10. Generally, how vulnerable do you think your current workplace is to “virtual graffiti” attacks (e.g., the use of AR-Enhanced “Internet of Things” devices to virtually deface buildings, landmarks, signage or other workplace surfaces with negative, unauthorized imagery – then shared with others)? (Please SELECT ONE.)

	Total
<i>BASE - EMPLOYED RESPONDENTS</i>	788
Top 2 Box (Net)	74%
Very vulnerable (4)	14%
Somewhat vulnerable (3)	60%
Bottom 2 Box (Net)	26%
Not very vulnerable (2)	23%
Not at all vulnerable (1)	3%

Note: Due to rounding, percentages may not add up to 100.

About ISACA’s 2016 IT Risk/Reward Barometer

The annual IT Risk/Reward Barometer is a global indicator of trust in information. Conducted by ISACA, a global association of more than 140,000 IT security, assurance, risk and governance professionals, the Barometer polls thousands of business and IT professionals and consumers worldwide to uncover attitudes

and behaviors about essential technologies and information, and the trade-offs people make to balance risk and reward. The study is based on online polling of 6,591 ISACA members among 140 countries from 19-29 September 2016. Additional online surveys were fielded by M/A/R/C Research among 1,230 consumers in the US, 1,000 consumers in the UK, 1,000 consumers in Australia, 1,001 consumers in India and 1,000 consumers in Singapore. The US survey ran 6-8 August 2016, and the UK, Australia, India and Singapore surveys ran 12-23 August 2016. At a 95 percent confidence level, the margin of error for each individual country sample is +/- 3.1 percent.

To see the full results, visit www.isaca.org/risk-reward-barometer.