

# TEACH, TRAIN, AND TRUST:

A STUDY OF DATA PRACTICES  
AMONG DEVELOPERS

June 2021

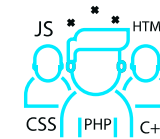
## ABOUT THE APRIL 2021 DATA PROTOCOL SURVEY



### Survey Methodology:

This survey was conducted online within the United States from April 22 through April 30 among 1,210 developers & people working in related positions by HarrisX. The sampling margin of error of this poll is plus or minus 2.82 percentage points.

The sample sizes and sampling margins of error are as follows:



**1,210**

**Developers/related positions**



**2.82%**

**Sampling Margin of Error**

# PRIVACY & SECURITY

## ATTITUDES BY COMPANY TYPE

How developers & their peers grade their company's data practices, importance placed on protecting consumer data by key groups, and privacy as an afterthought

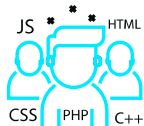
KEY INSIGHTS



The privacy gap: 1-in-5 developers and their peers grade their company’s data practices as less than good.



A majority of those in leadership roles place importance on protecting consumer data. Startups and Consumer apps lead the industry, whereas Data-driven and Ad-driven businesses lag behind.



A majority of developers and their peers place importance on protecting consumer data. Startups lead the industry, whereas Ad-driven business models lag behind.



Over 7-in-10 developers and their peers agree privacy is an afterthought when building products. This attitude is even more pervasive (83%) for those working in Startups.



Those working in **Startups** are more likely to see **privacy as an afterthought** than those working in mature companies or as freelancers.



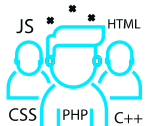
## IMPLICATIONS



**1-in-5 is a big number when we're talking about security.** One out of five people feeling less-than-good about their company's data practices speaks to **doubts across the industry** about whether current standards are sufficient.



When asked how important the **leadership** in their companies think **protecting consumer data** is, **68% of developers and their peers respond very or critically important.**



When asked how important **developers and their peers** think **protecting consumer data** is, **69% of respondents say very or critically important.** Protecting consumer data – in the abstract – is of high importance to both leadership and developers.

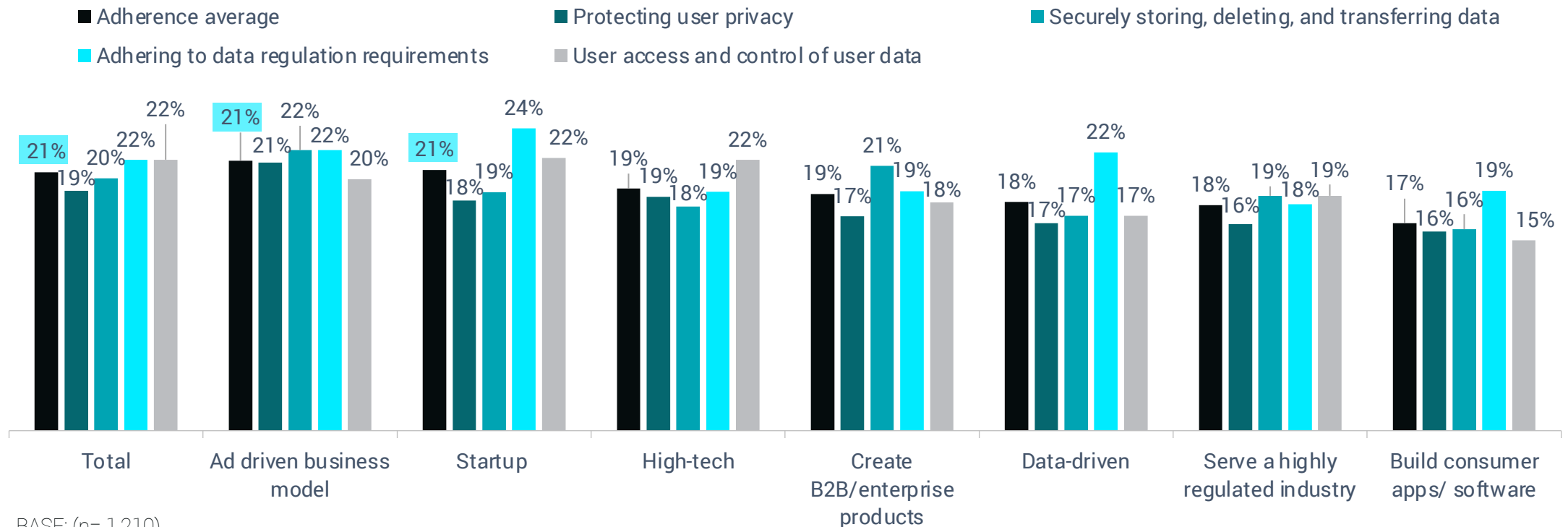


Once we put this responsibility in the context of building products, **the responses flip. Over 7-in-10 developers and their peers agree privacy is an afterthought when building products.** There is a disconnect between reported values and the nuts & bolts of building products.

## THE PRIVACY GAP: 1-IN-5 DEVELOPERS & THEIR PEERS GRADE THEIR COMPANY'S DATA PRACTICES AS LESS THAN GOOD

How would you grade the way your company's software or products manage the following?

% responding average, poor, or very poor

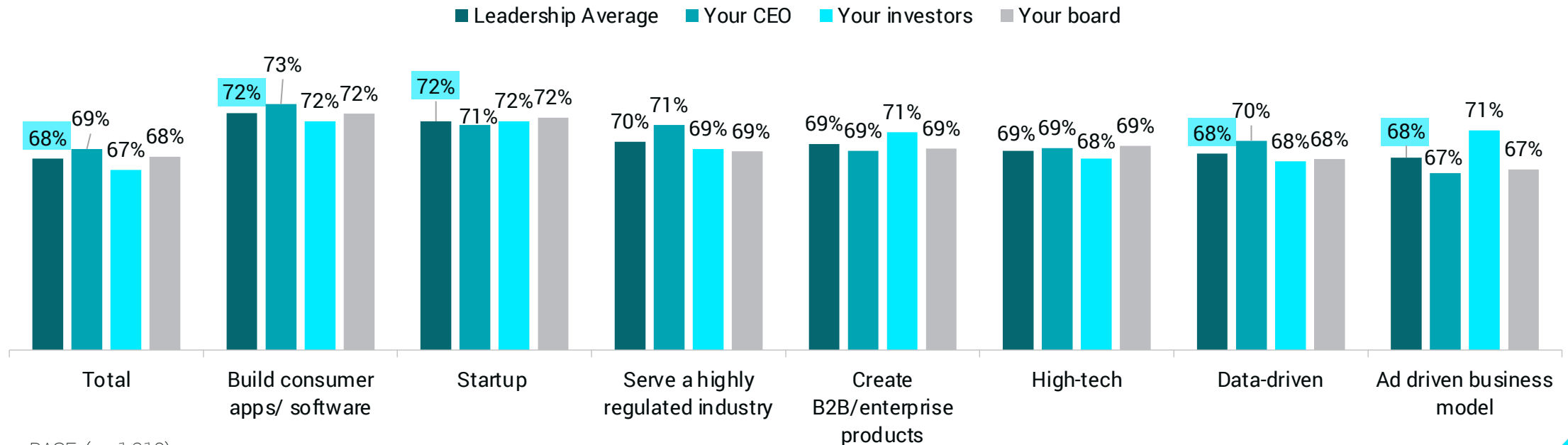


BASE: (n=1,210)

DP5r: Summary Average, Poor, Very poor – How would you grade the way your company's software or products manage the following?

**A MAJORITY OF ALL LEADERSHIP PLACE IMPORTANCE ON PROTECTING CONSUMER DATA. STARTUPS AND CONSUMER APPS LEAD THE INDUSTRY, WHEREAS DATA-DRIVEN AND AD-DRIVEN BUSINESSES LAG BEHIND**

**In your experience, how important is protecting consumer data for each of the following?**  
% responding very or critically important



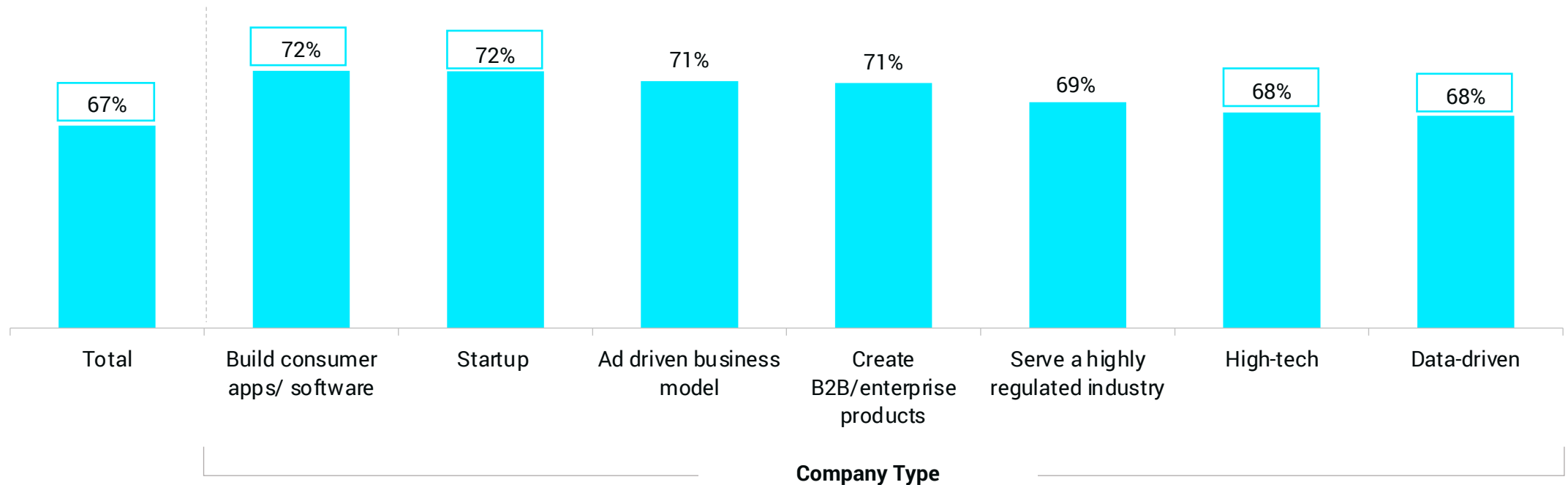
BASE: (n= 1,210)

DP1r: Summary Important – In your experience, how important is protecting consumer data for each of the following?

**67% OF DEVELOPERS AND THEIR PEERS THINK INVESTORS VALUE PROTECTING CONSUMER DATA. FOR THOSE BUILDING CONSUMER APPS OR AT STARTUPS, THAT FIGURE IS 72%**

**In your experience, how important is protecting consumer data for your investors?**

% responding very or critically important



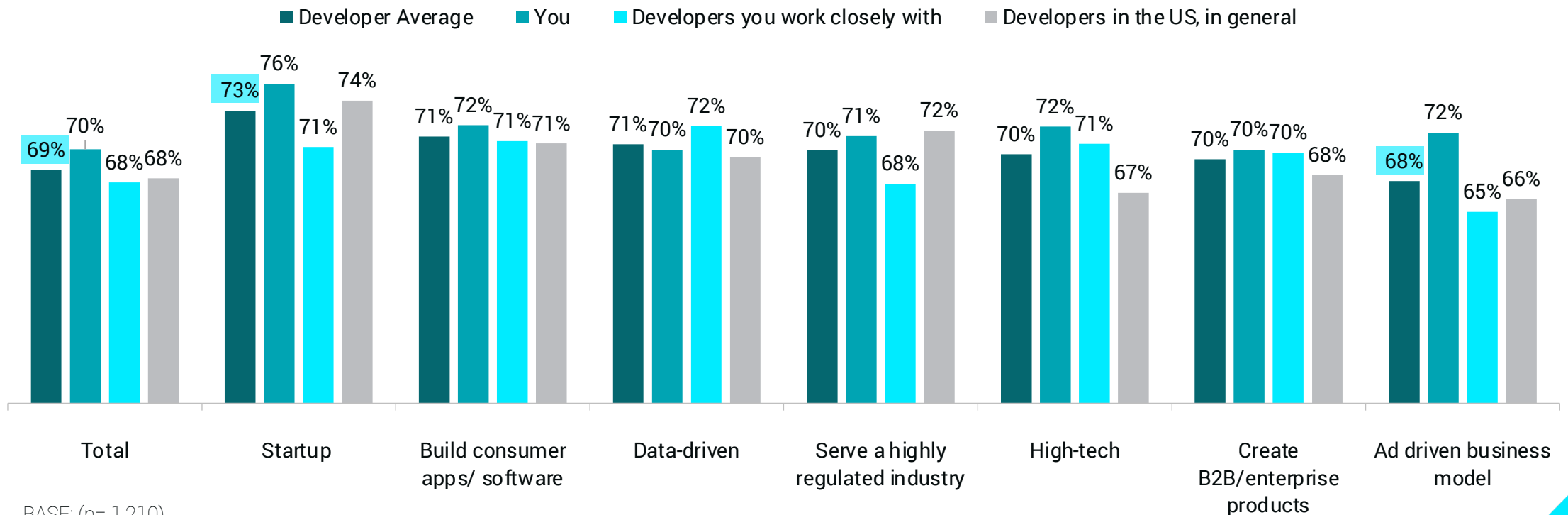
BASE: (n= 1,210)

DP1r: Summary Important – In your experience, how important is protecting consumer data for each of the following?



**A MAJORITY OF DEVELOPERS AND THEIR PEERS PLACE IMPORTANCE ON PROTECTING CONSUMER DATA. STARTUPS LEAD THE INDUSTRY, WHEREAS AD-DRIVEN BUSINESS MODELS LAG BEHIND**

**In your experience, how important is protecting consumer data for each of the following?**  
% responding very or critically important

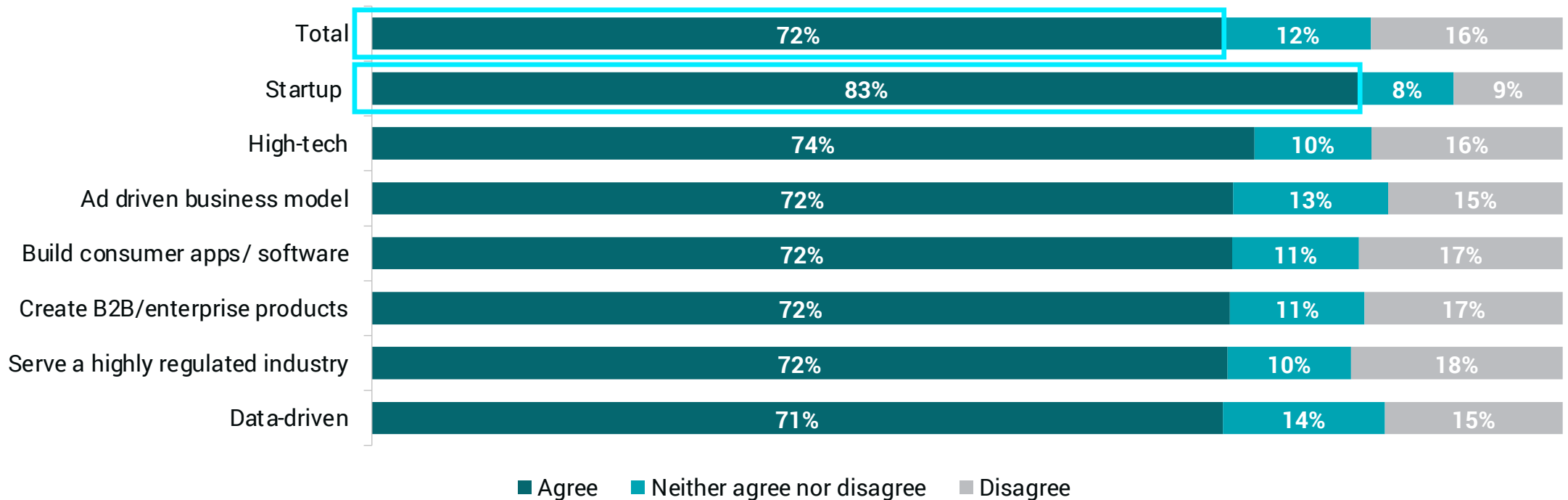


BASE: (n=1,210)

DP1r: Summary Important – In your experience, how important is protecting consumer data for each of the following?

OVER 7-IN-10 DEVELOPERS & THEIR PEERS AGREE PRIVACY IS AN AFTERTHOUGHT WHEN BUILDING PRODUCTS

Agree or disagree: Privacy is usually an afterthought when building products

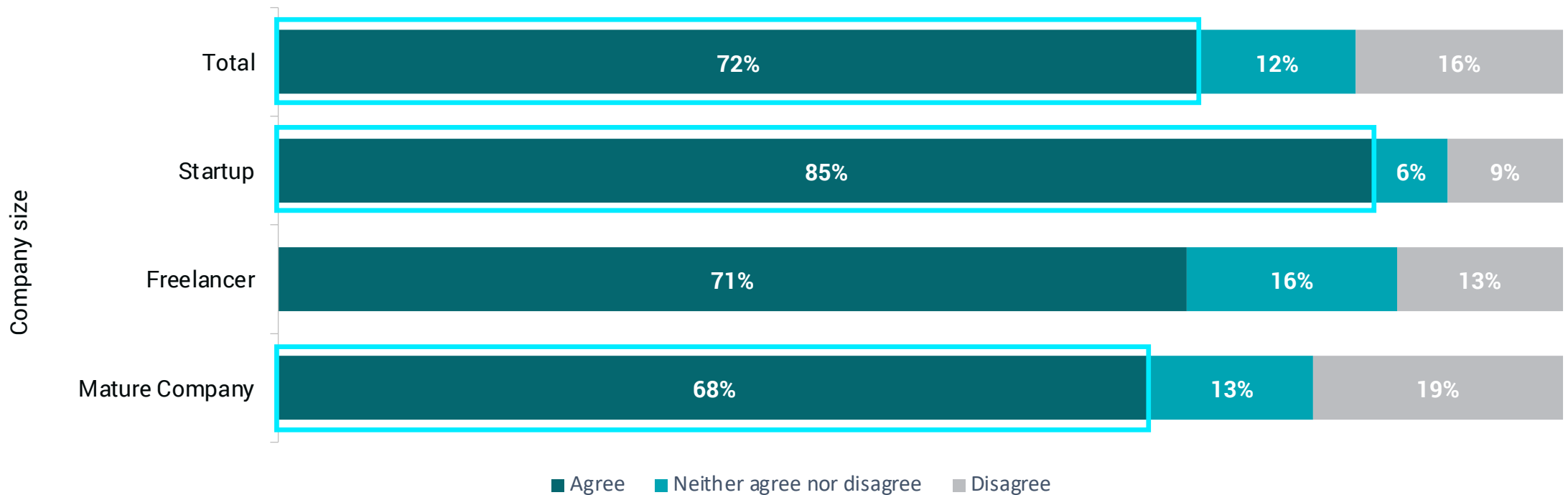


BASE: (n= 1,210)

ED10r3: Privacy is usually an afterthought when building products – Do you agree or disagree with the following statements?

THOSE WORKING IN STARTUPS ARE MORE LIKELY TO SEE PRIVACY AS AN AFTERTHOUGHT THAN THOSE WORKING IN MATURE COMPANIES OR AS FREELANCERS

Agree or disagree: Privacy is usually an afterthought when building products



BASE: (n= 1,210)

ED10r3: Privacy is usually an afterthought when building products – Do you agree or disagree with the following statements?

# PRIVACY & SECURITY

## ATTITUDES BY COMPANY TYPE

Problematic attitudes in data collection and informed user consent, pressure to compromise data privacy, and what factors produce that pressure

## KEY INSIGHTS



**23%** of developers and their peers say **it's a waste of time to inform users about how their data will be used**; Over a quarter (26%) of respondents working with ad-driven business models are particularly likely to hold this view.



**65%** of developers and their peers say their **approach to data collection is to gather all available data**. This figure is higher among data-driven (70%) and high-tech (71%) enterprises.



**Over 7-in-10** of developers and their peers say they often or sometimes **feel pressured to make decisions that compromise data privacy**. This figure is even higher for respondents working in Startups (81%) and Ad-driven business models (77%).



**Over half** of developers and their peers cite the **pressure to prioritize other metrics, such as sign-up or user engagement**, as edging out data privacy. Those associated with **Startups** are particularly likely to cite **"my boss told me to"** as a pressure to compromise data privacy.

 IMPLICATIONS

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**Problematic attitudes towards informed user consent are not uncommon. Nearly a quarter (23%) of developers and their peers say it's a waste of time to inform users about how their data will be used.**

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**A majority (65%) of developers and their peers do not practice data minimization and instead collect all available data.** This is a privacy issue in and of itself and loads the gun for potential security issues down the road.

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We've established that developers and companies are sitting on more data than they need. **On top of this, over 7-in-10** of developers and their peers say they often or sometimes **feel pressured to make decisions that compromise data privacy.** Lack of data minimization compounded with pressure to compromise their own standards of data privacy is an alarming combination.

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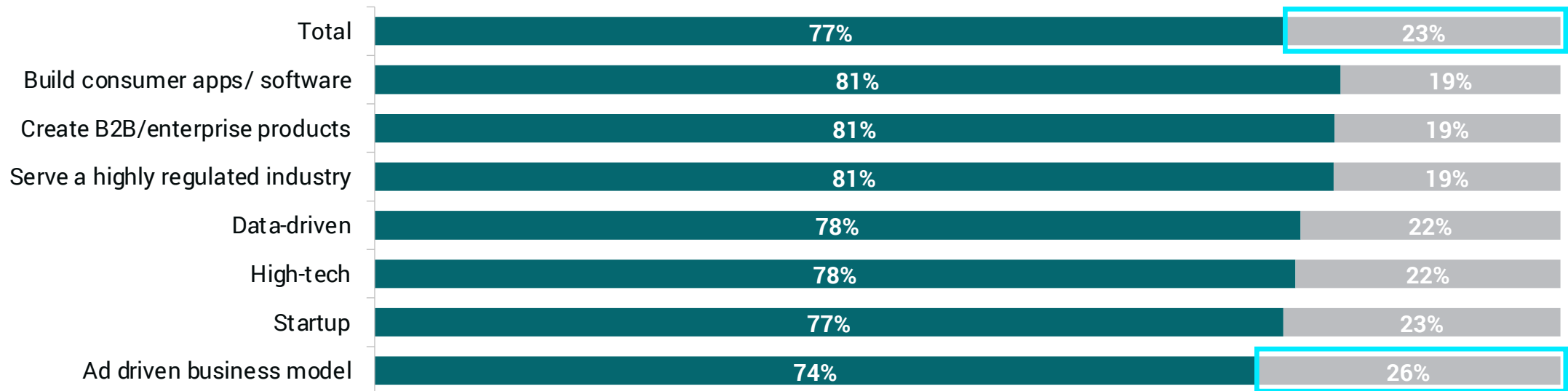


**Pressure on developers to cut corners comes both from the incentive to protect the company's bottom line** (prioritizing other metrics, maximizing profitability), **as well as social inertia** (following my company's way of doing things, my boss told me to).

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23% OF DEVELOPERS & THEIR PEERS SAY IT'S A WASTE OF TIME TO INFORM USERS ABOUT HOW THEIR DATA WILL BE USED; OVER A QUARTER (26%) OF RESPONDENTS WORKING WITH AD-DRIVEN BUSINESS MODELS ARE PARTICULARLY LIKELY TO HOLD THIS VIEW

Which comes closest to your view?



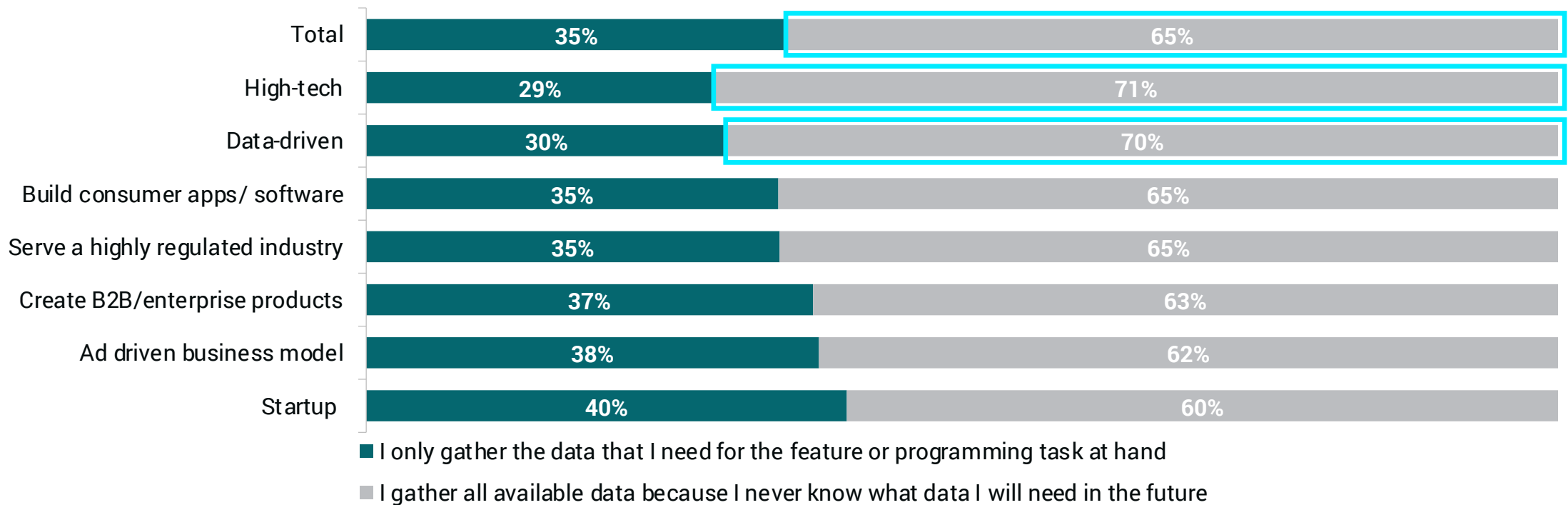
- It is important to inform users about how their data will be used so they can properly consent before using a software or application
- It is a waste of time to inform users about how their data will be used because they rarely read the information

BASE: (n= 1,210)

DP1\_2: Which comes closest to your view?

**65% OF DEVELOPERS & THEIR PEERS SAY THEIR APPROACH TO DATA COLLECTION IS TO GATHER ALL AVAILABLE DATA. THIS FIGURE IS HIGHER AMONG DATA-DRIVEN (70%) AND HIGH-TECH (71%) ENTERPRISES**

**Which comes closest to your approach to data collection?**



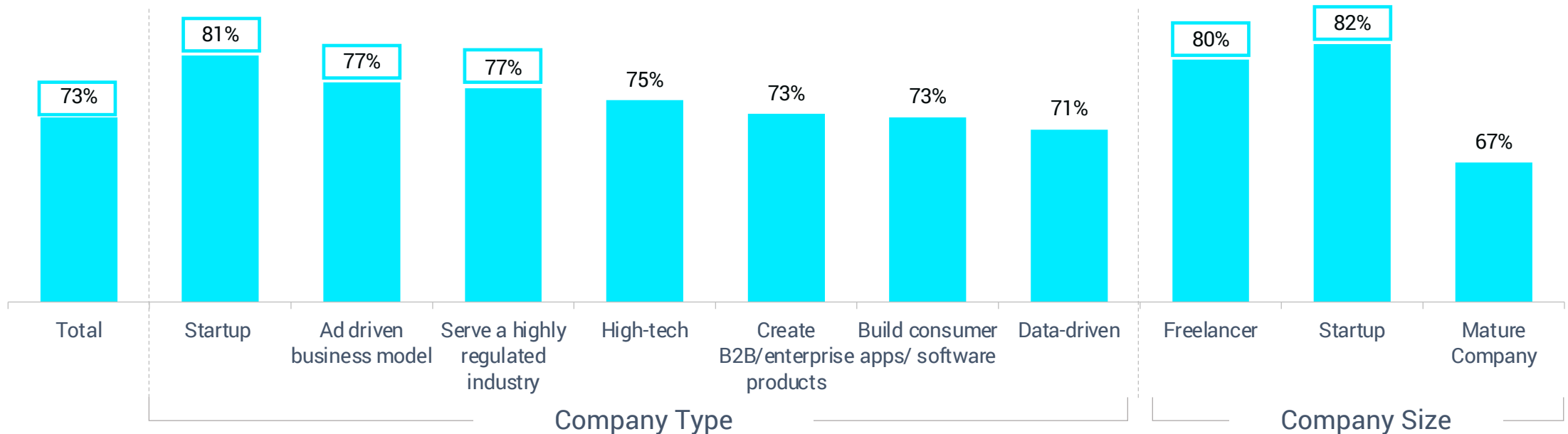
BASE: (n= 1,210)

'DP1\_1: Which comes closest to your approach to data collection



OVER 7-IN-10 DEVELOPERS & THEIR PEERS SAY THEY OFTEN OR SOMETIMES FEEL PRESSURED TO MAKE DECISIONS THAT COMPROMISE DATA PRIVACY. THIS FIGURE IS EVEN HIGHER FOR RESPONDENTS WORKING IN STARTUPS (81%) AND AD-DRIVEN BUSINESS MODELS (77%)

How often do you feel that you are pressured to make, or implement previously made, decisions about how to handle data that compromise your views of data privacy? % responding "often" or "sometimes"



BASE: (n= 1,210)

DP5\_1: How often do you feel that you are pressured to make, or implement previously made, decisions about how to handle data that compromise your views of data privacy?

OVER HALF OF DEVELOPERS & THEIR PEERS CITE THE PRESSURE TO PRIORITIZE OTHER METRICS, SUCH AS SIGN-UP OR USER ENGAGEMENT, AS EDGING OUT DATA PRIVACY

When you feel pressured to compromise on data privacy, what are the reasons?

53%

of respondents cited  
**“Prioritizing other metrics like sign-up or user engagement”** as a pressure they feel to compromise data privacy

52%

of respondents cited  
**“Maximizing profitability”** as a pressure they feel to compromise data privacy

47%

of respondents cited  
**“Following my company’s way of doing things”** as a pressure they feel to compromise data privacy

30%

of respondents cited  
**“My boss told me to”** as a pressure they feel to compromise data privacy

BASE: (n= 1,210)

DP13. When you feel pressured to compromise on data privacy, what are the reasons?

THOSE WORKING AT STARTUPS ARE MORE LIKELY TO CITE REASONS FOR FEELING PRESSURED TO COMPROMISE DATA PRIVACY THAN THEIR PEERS WORKING AT OTHER COMPANY TYPES

When you feel pressured to compromise on data privacy, what are the reasons?



citing **“Prioritizing other metrics like sign-up or user engagement”** as a pressure they feel to compromise data privacy



**Total 53%**



**Startup 58%**



citing **“Maximizing profitability”** as a pressure they feel to compromise data privacy



**Total 52%**



**Startup 54%**



citing **“Following my company’s way of doing things”** as a pressure they feel to compromise data privacy



**Total 47%**



**Startup 52%**



citing **“My boss told me to”** as a pressure they feel to compromise data privacy



**Total 30%**



**Startup 39%**

BASE: (n=1,210)

DP13. When you feel pressured to compromise on data privacy, what are the reasons?

Highest among all company types

# PRIVACY & SECURITY



## ATTITUDES BY DEVELOPER DEMOGRAPHICS

How education level, degree type, and experience may play into attitudes towards privacy and security

KEY INSIGHTS



Half of developers and their peers cite their **experience as influential on their understanding of privacy and data management**; platform partners and product resources are the next most commonly-cited influences.



33% of those with degrees in **fields** other than Computer Science & Information Technology think **informing users about how their data will be used is a waste of time**.



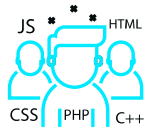
65% of developers and their peers **gather all relevant data that is available to them**. Respondents reporting a high level of knowledge of data minimization are *not* any more likely to avoid this privacy oversight.



64% of those who handle data from children under the age of 13 **treat it just like data from adults**. For those with degrees in fields other than computer science or IT, this figure grows to 83%.



## IMPLICATIONS



**Developers' and their peers' attitudes toward privacy and data management come from diverse sources.** As an already highly-educated group that is expected to engage in continuing education to stay abreast of their field, they accept input from a variety of sources.



**Educational background matters.** Those who have degrees in fields other than Computer Science & Information Technology are more likely than their CS & IT peers to see **informing users about how their data will be used as a waste of time**. This education gap needs to be filled for the good of the industry.



**Knowledge matters, but so does implementation. 65% of developers and their peers gather all relevant data** and respondents reporting a high level of knowledge of data minimization are *not* any more likely to avoid this privacy oversight. For privacy to be improved, the gap between knowing about best practices and actually implementing them needs to be addressed.



**Developers and their peers largely do not distinguish between children's and adult's data.** Children's privacy deserves more protection than what it is receiving.

HALF OF DEVELOPERS & THEIR PEERS CITE THEIR EXPERIENCE AS INFLUENTIAL ON THEIR UNDERSTANDING OF PRIVACY AND DATA MANAGEMENT; PLATFORM PARTNERS AND PRODUCT RESOURCES ARE THE NEXT MOST COMMONLY-CITED INFLUENCES

Which of the following influence your understanding and execution of privacy and data management?

50%

of respondents cited their **experience** as influential

42%

of respondents cited their **platform partners** as influential

41%

of respondents cited their **product resources and guidance** as influential

39%

of respondents cited their **employer** as influential

39%

of respondents cited their **education** as influential

34%

of respondents cited **government fines/regulations** as influential

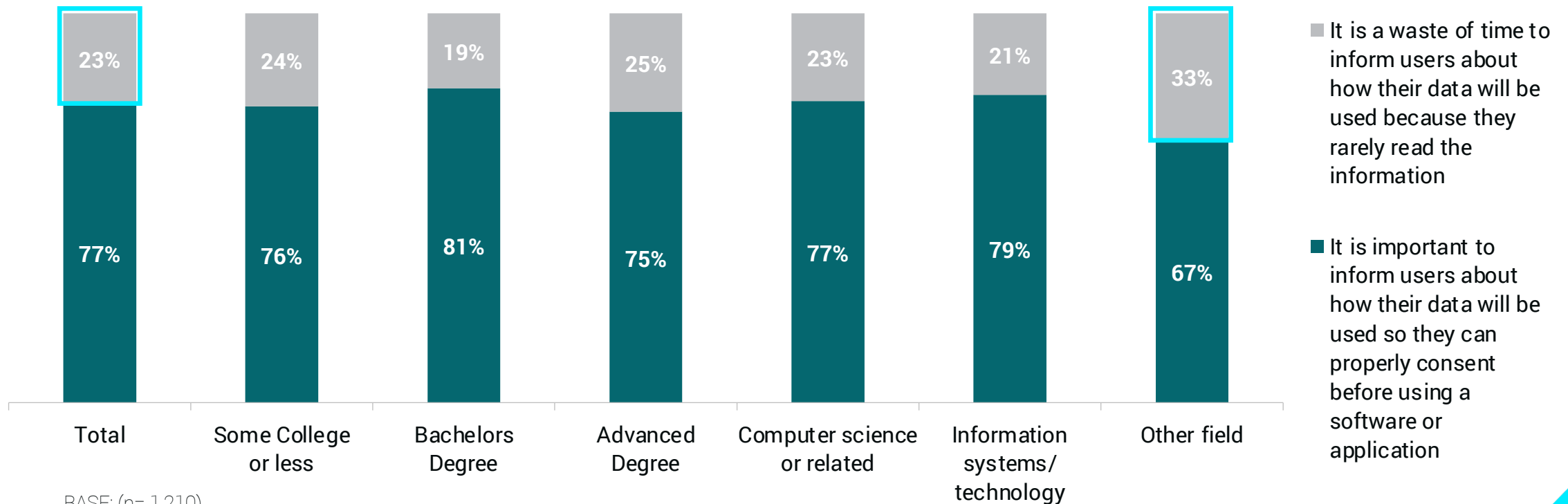
BASE: (n= 1,210)

DP12. Which of the following influence your understanding and execution of privacy and data management?

Highest among all company types

**33% OF THOSE WITH DEGREES IN FIELDS OTHER THAN COMPUTER SCIENCE & INFORMATION TECHNOLOGY THINK INFORMING USERS ABOUT HOW THEIR DATA WILL BE USED IS A WASTE OF TIME**

Which comes closest to your view?



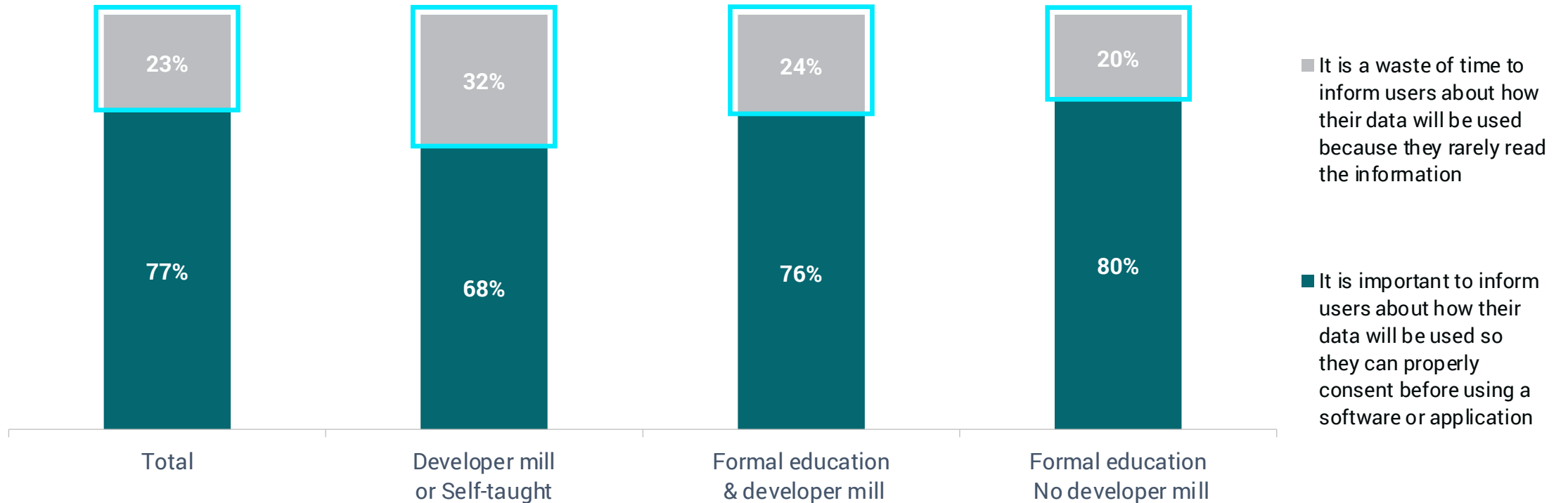
BASE: (n=1,210)

'DP1\_2: Which comes closest to your view?'



**4-IN-5 OF THOSE WHO HAVE A FORMAL EDUCATION AND HAVE NEVER BEEN TO A “DEVELOPER MILL” VALUE INFORMED USER CONSENT, THE MOST OF ANY GROUP**

**Which comes closest to your view?**



BASE: (n= 1,210)

'DP1\_2: Which comes closest to your view?'

65% OF DEVELOPERS & THEIR PEERS GATHER ALL RELEVANT DATA THAT IS AVAILABLE TO THEM. THOSE REPORTING KNOWLEDGE OF DATA MINIMIZATION ARE NOT ANY MORE LIKELY TO AVOID THIS PRIVACY OVERSIGHT

Which comes closest to your approach to data collection?

How much do you know about data minimization techniques?

I only gather the data that I need for the feature or programming task at hand

I gather all available data because I never know what data I will need in the future

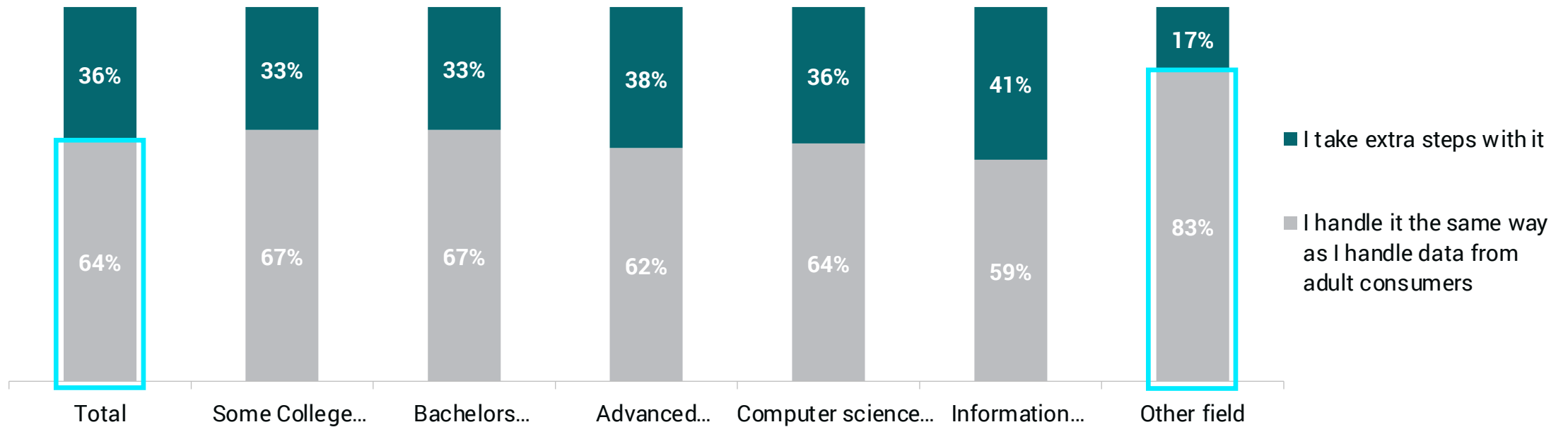
	Total	A great deal	Some	Little or None
I only gather the data that I need for the feature or programming task at hand	35%	33%	36%	37%
I gather all available data because I never know what data I will need in the future	65%	67%	64%	63%

BASE: (n= 1,210)

DP1\_1 Which comes closest to your approach to data collection? X 'DP3: How much do you know about data minimization techniques?

64% OF THOSE HANDLING DATA FROM CHILDREN UNDER THE AGE OF 13 TREAT IT JUST LIKE DATA FROM ADULTS. FOR THOSE WITH DEGREES IN FIELDS OTHER THAN COMPUTER SCIENCE OR IT, THIS FIGURE GROWS TO 83%

When working with data from children under the age of 13, do you handle it the same way you handle data from adult consumers, or do you take extra steps with it?

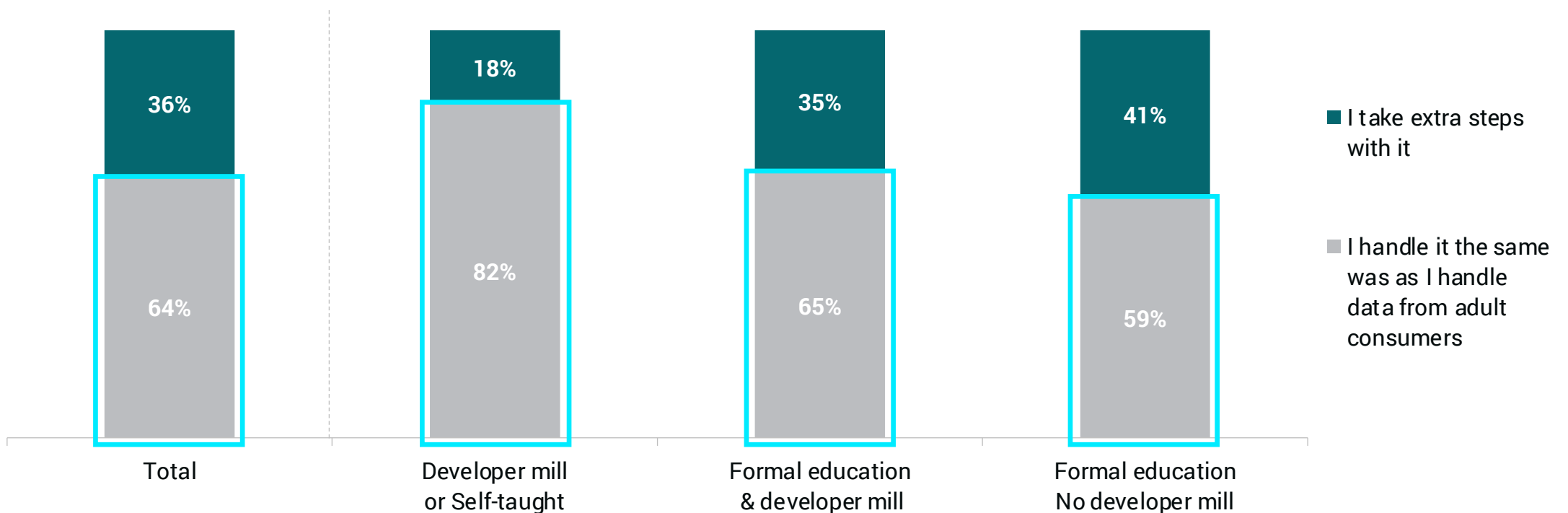


BASE: (n= 578)

DP2\_2: When working with data from children under the age of 13, do you handle it the same way you handle data from adult consumers, or do you take extra steps with it?

**THOSE WHO HAVE A FORMAL EDUCATION AND HAVE NEVER BEEN TO A “DEVELOPER MILL” ARE THE MOST LIKELY TO TAKE EXTRA CARE WHEN HANDLING CHILDREN’S DATA**

**When working with data from children under the age of 13, do you handle it the same way you handle data from adult consumers, or do you take extra steps with it?**



BASE: (n= 578)

DP2\_2: When working with data from children under the age of 13, do you handle it the same way you handle data from adult consumers, or do you take extra steps with it?

# PRIVACY & SECURITY

## ATTITUDES BY COMPANY TYPE

Knowledgeability & concerns about compliance with US data laws; Adherence to regulations which empower consumers to choose how their data is handled

## KEY INSIGHTS



**Less than half (46%)** of developers and their peers **know that US laws on data privacy are a patchwork of state laws**. This figure is even lower among those serving highly regulated industries (41%) or building consumer apps (42%).



**78% of developers and their peers are concerned** about the difficulties of compliance with **piecemeal data regulations**.



Among company types, those working in **data-driven companies** report giving users the **highest level of control of their own data**.



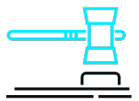
Among company types, those creating **B2B products** or working in **highly-regulated industries** report giving users the lowest level of control of their own data.



**Freelancers** report giving users the **lowest level of control of their own data**.

 IMPLICATIONS

**Knowledge of the legal environment in which developers operate is troublingly low** (46% knowledgeability). This highly-educated group needs to become aware of their legal environment.



Once informed about the state of US data laws, **a 78% majority of developers and their peers are concerned** about the difficulties of compliance with **piecemeal data regulations**. This means the door for talks about federal regulations may be open, with the developers being interested in being party to the conversation.



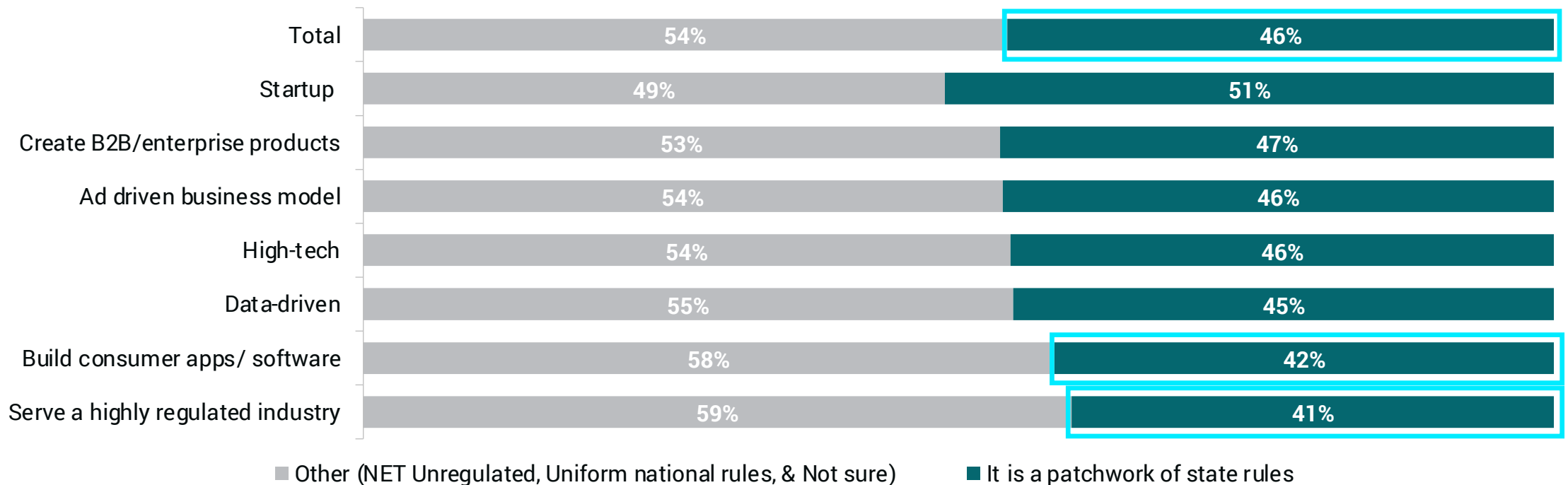
Some sectors of the industry are more vigilant about implementing regulations than others. Those working in **data-driven companies** report giving users the **highest level of control of their own data**.



The **B2B products sector and those working in highly-regulated industries** report the lowest level of implementation of regulations in the industry. **Freelancers** also report the lowest level of implementation.

LESS THAN HALF (46%) OF DEVELOPERS & THEIR PEERS KNOW THAT US LAWS ON DATA PRIVACY ARE A PATCHWORK OF STATE LAWS. THIS FIGURE IS EVEN LOWER AMONG THOSE SERVING HIGHLY REGULATED INDUSTRIES (41%) OR BUILDING CONSUMER APPS (42%)

As far as you know, what is the current state of US law on data privacy?



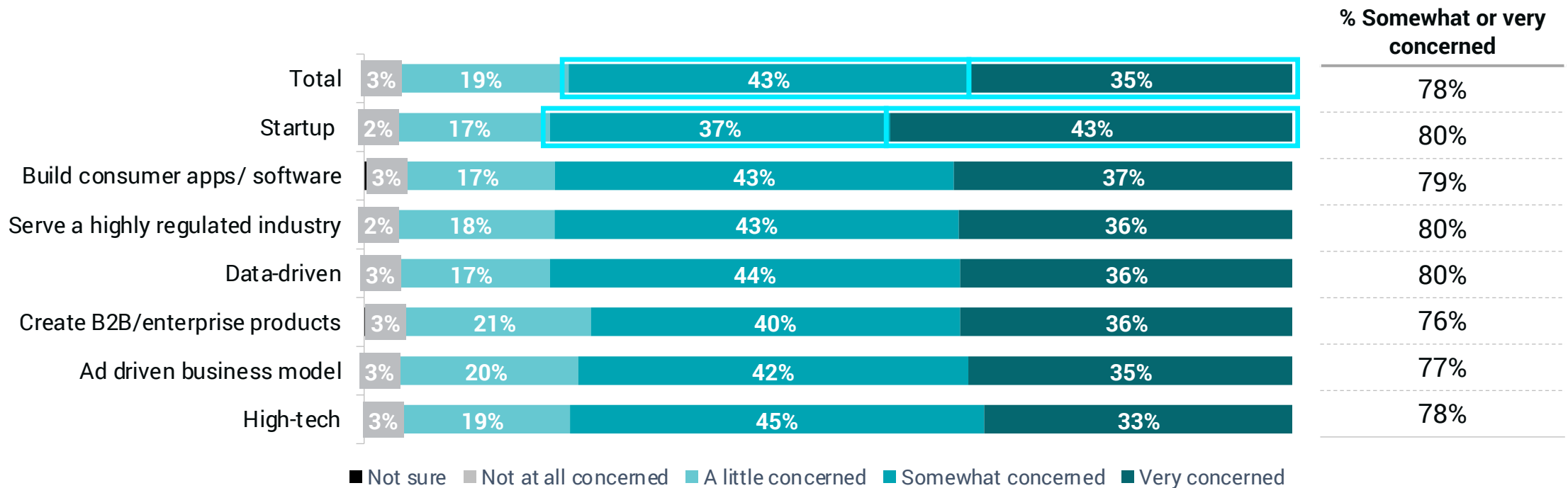
BASE: (n= 1,210)

R1: As far as you know, what is the current state of US law on data privacy?



**78% OF DEVELOPERS & THEIR PEERS ARE CONCERNED ABOUT THE DIFFICULTIES OF COMPLIANCE WITH PIECEMEAL DATA REGULATIONS**

**How concerned are you that without federal legislation in the US it will be difficult to comply with a patchwork of state and international data regulations?**



BASE: (n=1,210)

R2: How concerned are you that without federal legislation in the US it will be difficult to comply with a patchwork of state and international data regulations?

AMONG COMPANY TYPES, THOSE WORKING IN DATA-DRIVEN COMPANIES REPORT GIVING USERS THE HIGHEST LEVEL OF CONTROL OF THEIR OWN DATA

Below is a list of potential privacy regulations. Please indicate which of these you currently have implemented, which you have not, and which are not applicable to your current projects

% reporting implementation

Total Average	Data-driven
62%	67%
59%	62%
61%	64%
62%	67%
59%	65%
60%	66%



Giving consumers the ability to direct the deletion their information



Deleting personal information once it is no longer necessary



Allowing consumers to opt out of the sale of personal information without being discriminated against



Allowing consumers to opt out of their data being shared at no cost



Grant consumers, upon request, which of their information has been sold



Deliver any personal data that has been disclosed to verifiable consumers upon request

BASE: (n=1,210)

DRG3r Summary Implemented – Below is a list of potential privacy regulations. Please indicate which of these you currently have implemented, which you have not, and which are not applicable to your current projects

AMONG COMPANY TYPES, THOSE CREATING B2B PRODUCTS OR WORKING IN HIGHLY-REGULATED INDUSTRIES REPORT GIVING USERS THE LOWEST LEVEL OF CONTROL OF THEIR OWN DATA

Below is a list of potential privacy regulations. Please indicate which of these you currently have implemented, which you have not, and which are not applicable to your current projects

% reporting implementation

Total Average	Serve a highly-regulated industry	Create B2B/enterprise products
62%	59%	61%
62%	65%	59%
61%	61%	63%
60%	62%	58%
59%	56%	58%
59%	55%	57%



Giving consumers the ability to prevent the selling of their information to third parties via a “Do Not Sell My Personal Information” link in the privacy policies



Giving consumers the ability to direct the deletion their information



Allowing consumers to opt out of the sale of personal information without being discriminated against



Deliver any personal data that has been disclosed to verifiable consumers upon request



Grant consumers, upon request, which of their information has been sold










Not selling information about consumers between the ages of 13 and 16 without explicit consent and about consumers under the age of 13 without parental consent

BASE: (n= 1,210)

DRG3r Summary Implemented – Below is a list of potential privacy regulations. Please indicate which of these you currently have implemented, which you have not, and which are not applicable to your current projects

## FREELANCERS REPORT GIVING USERS THE LOWEST LEVEL OF CONTROL OF THEIR OWN DATA

Below is a list of potential privacy regulations. Please indicate which of these you currently have implemented, which you have not, and which are not applicable to your current projects

% reporting implementation		
Total Average	Freelancers	
59%	55%	 Grant consumers, upon request, which of their information has been sold
60%	56%	 Deliver any personal data that has been disclosed to verifiable consumers upon request
61%	54%	 Making disclosures about what personal information you collect
61%	57%	 Allowing consumers to opt out of the sale of personal information without being discriminated against
62%	54%	 Allowing consumers to opt out of their data being shared at no cost
62%	61%	 Giving consumers the ability to prevent the selling of their information to third parties via a "Do Not Sell My Personal Information" link in the privacy policies
62%	60%	 Giving consumers the ability to direct the deletion their information

BASE: (n= 1,210)

DRG3r Summary Implemented – Below is a list of potential privacy regulations. Please indicate which of these you currently have implemented, which you have not, and which are not applicable to your current projects

# THE ROLE OF PLATFORMS



## IN PRIVACY AND SECURITY

Data management, regularity compliance, and support for privacy and security

## KEY INSIGHTS



Over **two-thirds** of developers & their peers say **guidance provided by platforms** is important for **data management and regulatory compliance**.



**78%** of developers & their peers **rely on platforms and tool providers for privacy & security support**; this figure is **86%** for those at **Startups**.

 IMPLICATIONS



**Guidance provided by platforms** is a key tool for developers and their peers regarding **data management and regulatory compliance**. With 2/3rds citing this guidance is important, there is still room for platforms to assume more responsibility.



**Platforms and tool providers are integral to supporting developers** as they work to implement **privacy and security measures**. Reliance is highest at **Startups**, with **86%** of respondents reporting they lean on these tools a moderate amount or a great deal.

OVER TWO-THIRDS OF DEVELOPERS AND THEIR PEERS SAY GUIDANCE PROVIDED BY PLATFORMS IS IMPORTANT FOR DATA MANAGEMENT AND REGULATORY COMPLIANCE

How important is the guidance and documentation provided by platforms in regard to...  
% responding very or critically important

	Total	Startup	Build consumer apps/ software	Create B2B/ enterprise products	Data-driven	Ad driven business model	Serve a highly regulated industry	High-tech
 <p><b>Answering data management questions</b></p>	68%	71%	70%	66%	72%	68%	72%	71%
 <p><b>Promoting regulatory compliance</b></p>	67%	74%	71%	70%	68%	70%	70%	67%

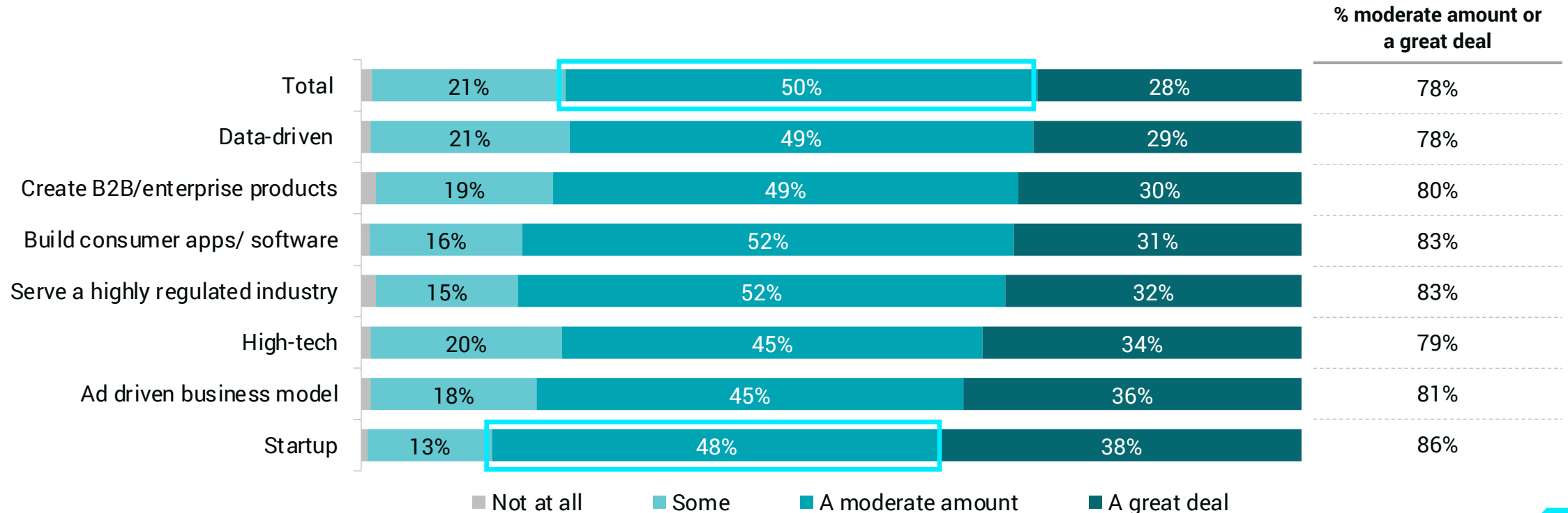
BASE: (n= 1,210)

DP9r: Summary Important – How important is the guidance and documentation provided by platforms (e.g., Twilio, Facebook, Google, etc.) in the following scenarios



**78% OF DEVELOPERS & THEIR PEERS RELY ON PLATFORMS AND TOOL PROVIDERS FOR PRIVACY & SECURITY SUPPORT; THIS FIGURE IS 86% FOR THOSE AT STARTUPS**

How much do you rely on platforms and tool providers to support privacy and data security?



BASE: (n=1,210)

DP7: How much do you rely on platforms and tool providers to support privacy and data security?