

The 2012-2017 Worldwide Game-based Learning and Simulation-based Markets

Key Findings from Recent Ambient Insight Research

Serious Play Conference 2013

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Agenda



- Introductions - Research Taxonomy
- Worldwide Game-based Learning and Simulation-based Learning Revenues
- Worldwide Game-based Learning Revenues Buying Patterns, and Trends
- All Roads Lead to Mobile



Partial List of Ambient Insight's Clients

Ambient Insight is an integrity-based market research firm that uses predictive analytics to identify revenue opportunities for suppliers.

- Adobe
- Amazon
- Amplify
- Apple
- BlackBerry
- Blackboard
- British Council
- Chungdahm Learning
- Dell
- Deutsche Telekom
- Disney
- Hasbro
- Houghton Mifflin Harcourt
- IBM
- John Wiley & Sons
- McGraw-Hill
- Macmillan
- Microsoft
- Oxford University Press
- Pearson
- Qualcomm
- Rosetta Stone



Ambient Insight's Learning Technology Research Taxonomy

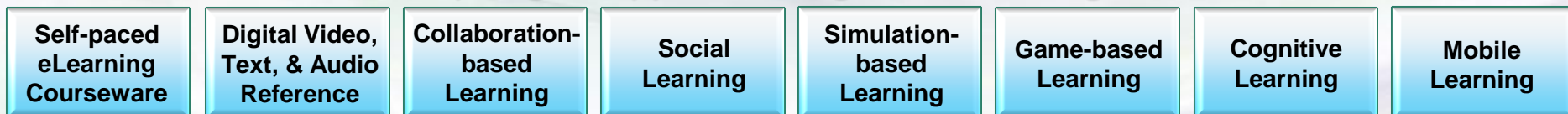
Seven International Regions



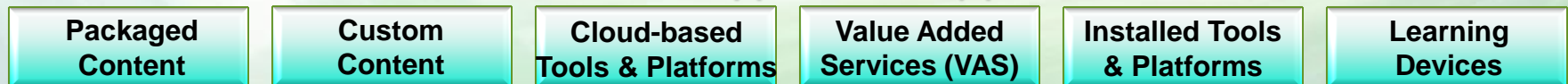
Have Eight Buyer Segments



That Buy Eight Types of Digital Learning Products



From Six Types of Suppliers



These six supplier types map directly to the six subcategories of learning technology products



Game-based Learning is a Subset of the Learning Technology Industry

[Ambient Insight's 2013 Learning Technology Research Taxonomy](#)

- Ambient Insight defines Game-based Learning as one of the eight distinct types of learning technology products.
 - ***We do not approach Game-based Learning as a subset of the global videogame industry.***
- In the context of the worldwide learning technology market, isolating Game-based Learning products is relatively straightforward
- There is only one hardware-based learning technology product type and that is Personal Learning Devices (PLDs)



2012-2017 Global Market Forecasts for Game-based Learning and Simulation-based Learning

- Ambient Insight separates Game-based Learning revenues from Simulation-based Learning revenues
- There are distinct pedagogical differences between Game-based Learning and Simulation-based Learning.
- Our definitions of Simulation-based Learning and Game-based Learning are based on the research done by Alessi and Trollip.

Global Revenues by Learning Product Type***	2012 Revenues in \$US Millions	2017 Revenues in \$US Millions	Five Year CAGR 2012-2017
Game-based Learning	\$1,548.44	\$2,309.60	8.3%
Simulation-based Learning	\$2,364.04	\$6,648.89	23.0%
Total	\$3,912.48	\$8,958.49	18.0%

*** Does not include hardware



Pedagogical Definition of Game-based Learning

There are distinct pedagogical differences between Game-based Learning and Simulation-based Learning.

[Ambient Insight's 2013 Learning Technology Research Taxonomy](#)

- Game-based Learning is a knowledge transfer method that utilizes "gameplay," which includes some form of competition (against oneself or others) and a reward/penalty system that essentially functions as an assessment method.
 - Game-based Learning products (edugames) have explicit pedagogical goals.
 - A user "wins" an edugame when they achieve the learning objectives of the gameplay.



Pedagogical Definition of Simulation-based Learning

There are distinct pedagogical differences between Game-based Learning and Simulation-based Learning.

[Ambient Insight's 2013 Learning Technology Research Taxonomy](#)

- There are four types of Simulation-based Learning:
 - Physical Object and Environmental
 - Process
 - Procedural
 - Situational
- Alessi and Trollip compressed these four into two instructional strategies: learning about something (physical and process), and learning to do something (procedural and situational).



Gamification Versus Game-based Learning

- Game-based Learning versus Gamification (via SpongeLab):
 - ***Gamification is the application of videogame rules, mechanics and conventions to a non-gaming situation.***
 - *Put simply, if a student is playing a videogame and learning from it, we aren't witnessing gamification - the student is experiencing game-based learning. An educational game hasn't been "gamified" - because it's a game already!*
- Game elements are often "bolted on" to legacy training products
 - Badgeville sells gamification add-ons for corporate training
 - Course Hero has online courses with game mechanics from the Bunchball platform
 - Oxford University Press uses SecretBuilder's game platform



2012-2017 Worldwide Simulation-based Learning Revenue Forecasts



2012-2017 Worldwide Simulation-based Learning Market

The global growth rate of the Worldwide Simulation-based Learning market is 23.0%. Revenues reached \$2.3 billion in 2012. **Revenues will grow to \$6.6 billion by 2017.**

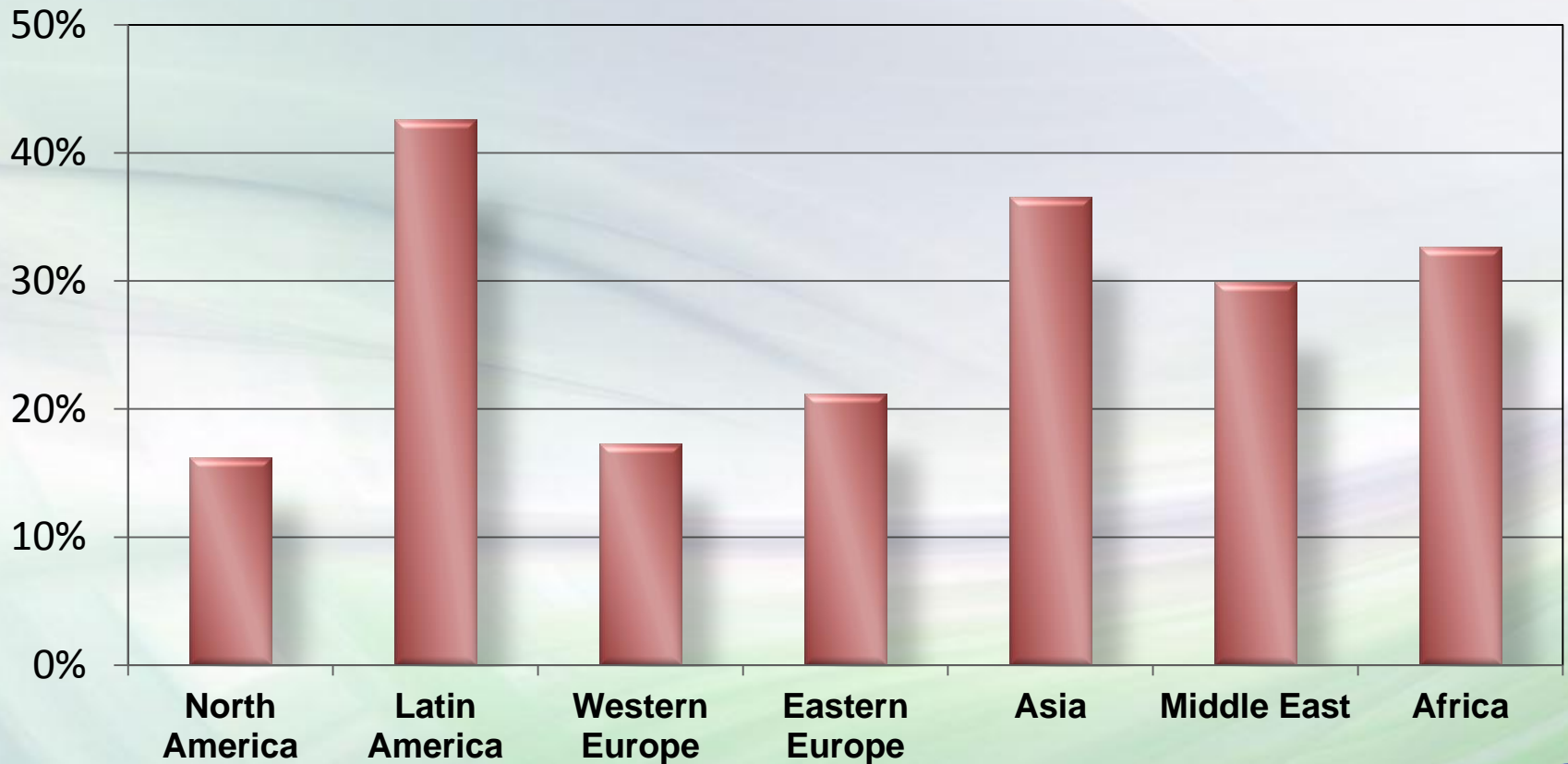
Simulation-based Learning by Region***	2012 Revenues in \$US Millions	2017 Revenues in \$US Millions	Five Year CAGR 2012-2017
North America	\$1,289.71	\$2,729.99	16.2%
Latin America	\$116.07	\$685.23	42.6%
Western Europe	\$451.40	\$1,001.91	17.3%
Eastern Europe	\$55.46	\$144.69	21.1%
Asia	\$374.02	\$1,774.49	36.5%
The Middle East	\$12.90	\$47.77	29.9%
Africa	\$64.49	\$264.81	32.6%
Total	\$2,364.04	\$6,648.89	23.0%

*** Includes custom content services and tools revenue



2012-2017 Worldwide Simulation-based Learning Five-year Growth Rates by Region

2012-2017 Growth Rates by Region



2012-2017 Worldwide Game-based Learning Revenue Forecasts



2012-2017 Worldwide Game-based Learning Market

The Worldwide Game-based Learning market reached \$1.5 billion in 2012. The global growth rate is 8.3% and **revenues will reach \$2.3 billion by 2017.**

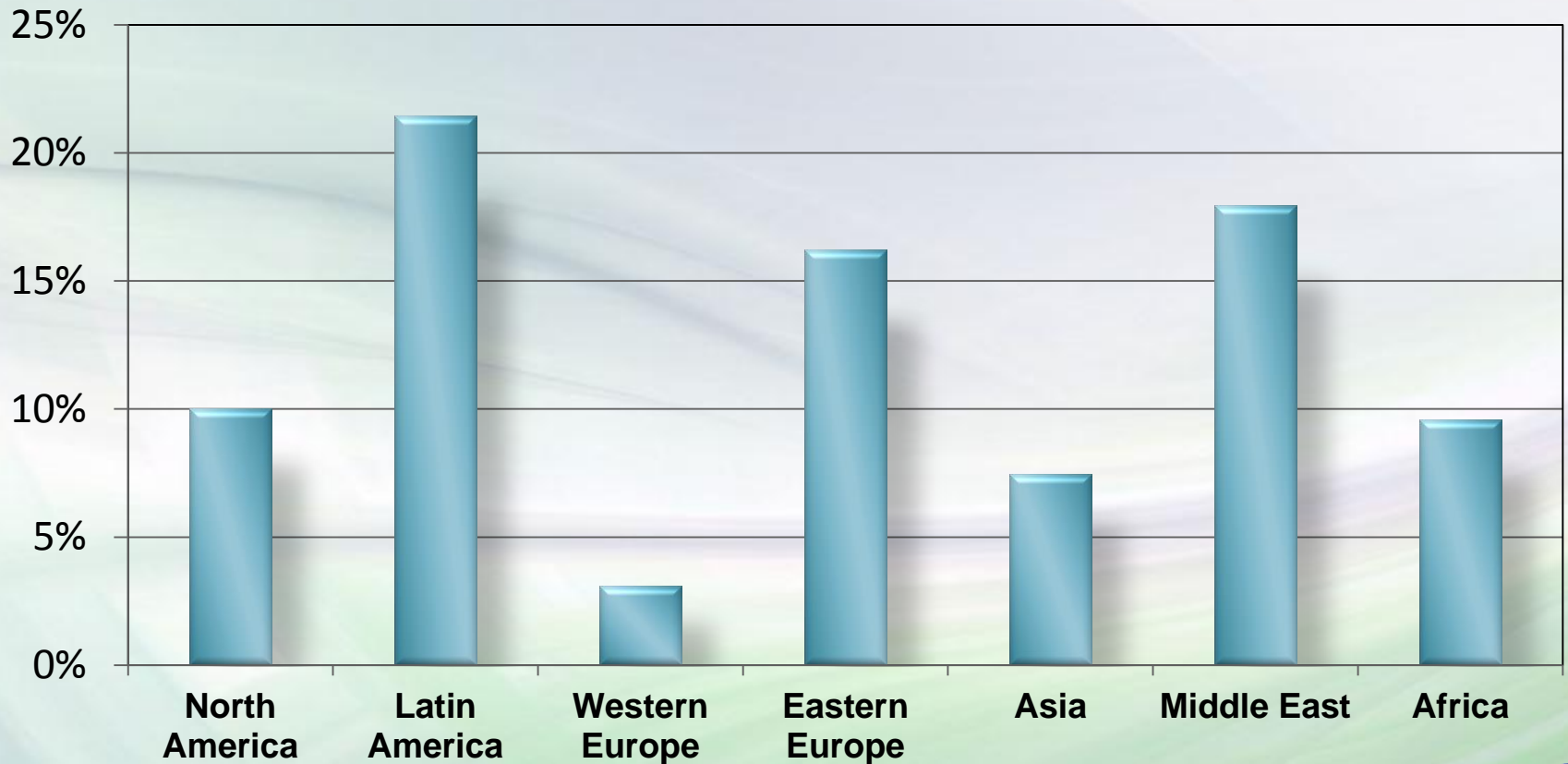
Game-based Learning by Region***	2012 Revenues in \$US Millions	2017 Revenues in \$US Millions	Five Year CAGR 2012-2017
North America	\$359.18	\$582.00	10.1%
Latin America	\$26.94	\$71.59	21.6%
Western Europe	\$96.98	\$113.49	3.2%
Eastern Europe	\$13.65	\$29.10	16.3%
Asia	\$1,029.43	\$1,475.01	7.5%
The Middle East	\$4.31	\$9.89	18.1%
Africa	\$17.96	\$28.52	9.7%
Total	\$1,548.44	\$2,309.60	8.3%

*** Includes custom content development services revenue



2012-2017 Worldwide Game-based Learning Five-year Growth Rates by Region

2012-2017 Growth Rates by Region



Game-based Learning Catalysts

- As of January 2013, Apple had app stores in 155 countries, up from 90 countries the year before
- December 2012 – Microsoft opens app stores in 37 more countries – most of them in developing economies
- Paid Android apps now available in Google Play stores in 134 countries as of March 2013
- Amazon App stores operational in 7 countries as of March 2013– ***expanding to over 200 in 2013***
- ***May 2013 - Amazon is the first Western company to offer a platform for paid Android apps in China***
- The telecom advantage: direct billing via telecoms is the only viable payment method in many countries.
 - Samsung, Nokia, Microsoft, BlackBerry, and Google have direct billing agreements in Latin America, Africa, and Asia



2012-2017 North America Edugame Forecast: Robust Custom Content Services Growth

- Revenues for packaged mobile edugames reached \$307.5 million in 2012. The growth rate (CAGR) is 8.4% and revenues will reach \$459.9 million by 2017
- The growth rate for custom edugame content development services is 18.8% and revenues **will more than double** to \$122.0 million by 2017

North America Edugame Content and Services	2012 Revenues in \$US Millions	2017 Revenues in \$US Millions	Five Year CAGR 2011-2016
Packaged Edugames	\$307.58	\$459.95	8.4%
Custom Content Development Services	\$51.60	\$122.05	18.8%
Total	\$359.18	\$582.00	10.1%



Worldwide Game-based Learning Market Trends

Who is the Buyer?



Buying Patterns: Game-based Learning Buying Behavior is Different in Each Country

- The top buying countries for mobile edugames in 2012 were the US, Japan, South Korea, China, and India, respectively.
- By 2017, the top buying countries will be China, the US, India, Indonesia, and Brazil.
- Early childhood learning are the top selling mobile edugames in most countries in the world
 - Almost all of learning apps designed for young children include gameplay
- App-based Brain trainers have recently become popular in the majority of countries across the planet
- Leapfrogging the Digital Divide – All Roads Lead to Mobile



Buying Patterns: 2012-2017 Worldwide Game-based Learning Market by Buyer Segment

Consumers dominate the global Game-based Learning market

	Global Game-based Learning by Buying Segment	2012 Revenues in \$US Millions	2017 Revenues in \$US Millions	Five Year CAGR 2012-2017
Revenues concentrated in edugame content	Consumer	\$1,145.85	\$1,524.33	5.9%
	PreK-12	\$170.33	\$323.34	13.7%
	Higher Education	\$15.48	\$46.19	24.4%
Revenues concentrated in custom services	Government	\$77.42	\$138.58	12.3%
	Corporate	\$46.45	\$92.38	14.7%
	Healthcare	\$61.94	\$115.48	13.3%
	NGOs & Non-Profits	\$30.97	\$69.29	17.5%
	Total	\$1,548.44	\$2,309.60	8.3%



Buying Behavior is Different in Each Buyer Segment

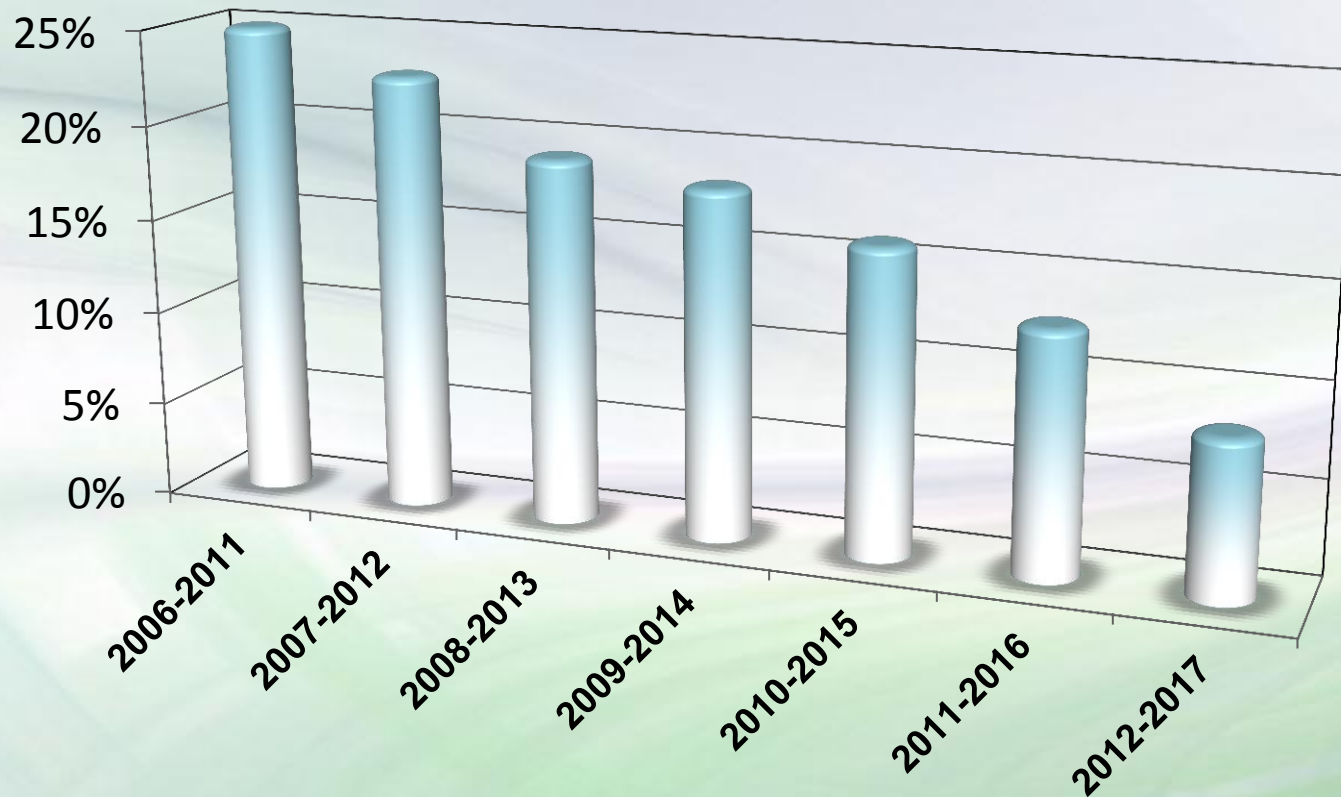
- Gaming consoles still banned in China
- Consumers gravitate to edugames for young children and brain training games for adults.
- Massive adoption of tablets in the schools across the planet is a major catalyst for Mobile Learning
- In the US, Game-based Learning is ubiquitous in the early grades but starts to taper out in middle school
 - Pearson shutters Alleyoop in March 2013 after one year of operation
 - MineCraftEdu has sold over 700 licenses in the last year
 - Glass Lab will launch SimCityEdu in late 2013
 - Amplify to bring 35 edugames across the PreK-12 curriculum in late 2013



Longitudinal Analysis: The Global Game-based Learning Market Enters Mature Phase

Data based on Ambient Insight's Game-based Learning reports from 2006 to 2013.

Compound Annual Growth Rates by Seven Forecast Periods



Buying Behavior is Different in Each Buyer Segment

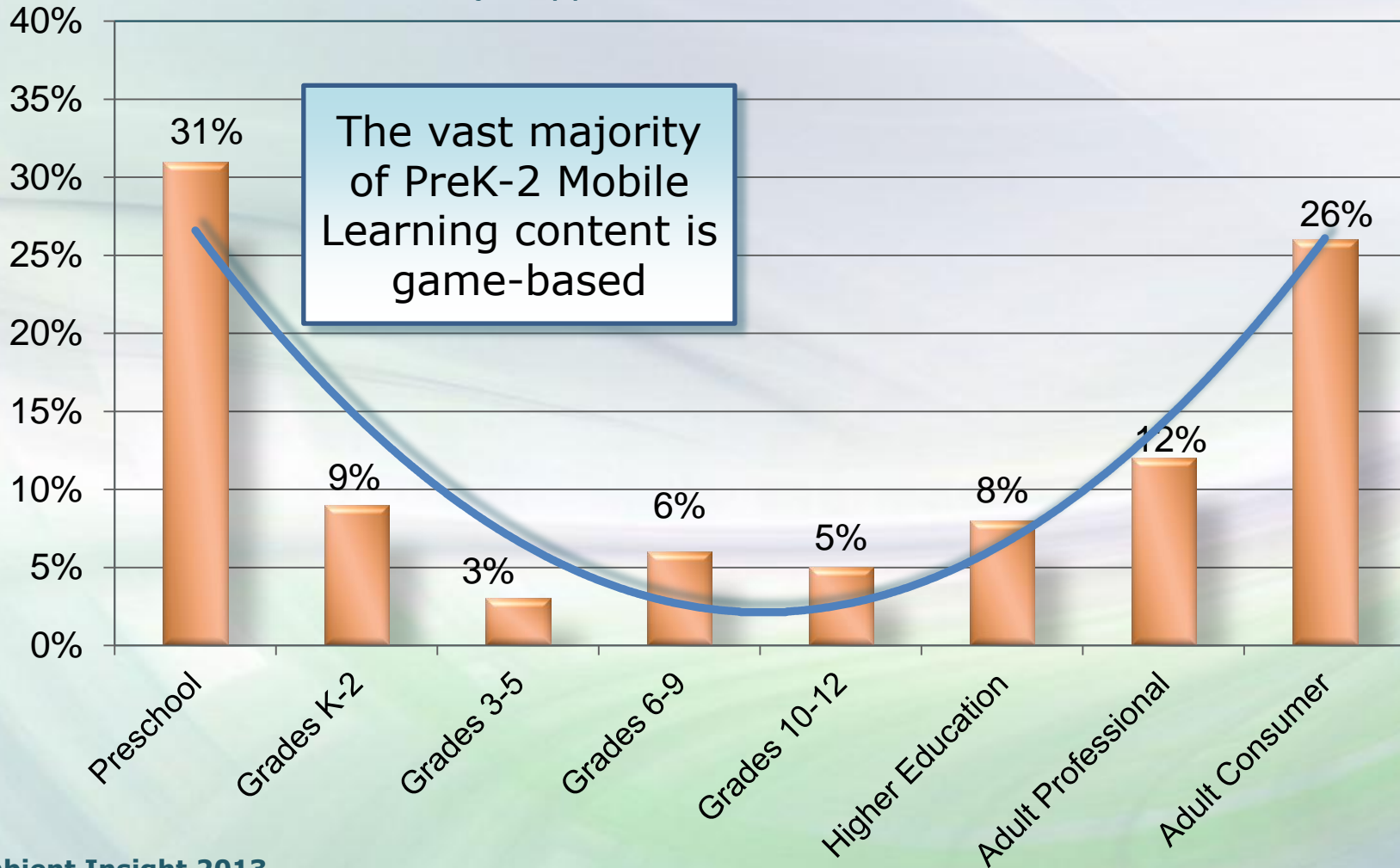
- The use of edugames in the corporate segment has always been problematic
 - “We are here to work, not play”
 - There are seven other learning technologies used in the corporate segment that essentially “compete” with Game-based Learning
 - There is a lingering perception that simulation and Game-based Learning are very expensive in comparison to eLearning courses
 - Classroom is still the dominant delivery method in the global corporate segment



"The 2012 Content Trench" – Percent of Total Paid Mobile Learning Apps by Target Demographic

What's on the Store Shelves?

*Consumer-facing Paid Mobile Learning Content
Across All Major Application Stores, Platforms, and Devices*



Buying Behavior is Different in Each Buyer Segment

- Federal agencies, particularly the military, are avid users of edugames
- Government agencies are increasingly paying developers to create edugames (web-based and mobile) for mHealth, literacy, and language learning initiatives
 - The US State Dept.'s Trace Word Soup game on the biNu platform launched in October 2012 and had over 1.4 million users in two months
- Healthcare edugames are usually designed for patient education, disease prevention, and behavior modification
- NGOs and Non-profits fund the development of mobile edugames relating to disease prevention, social engineering, and the environment



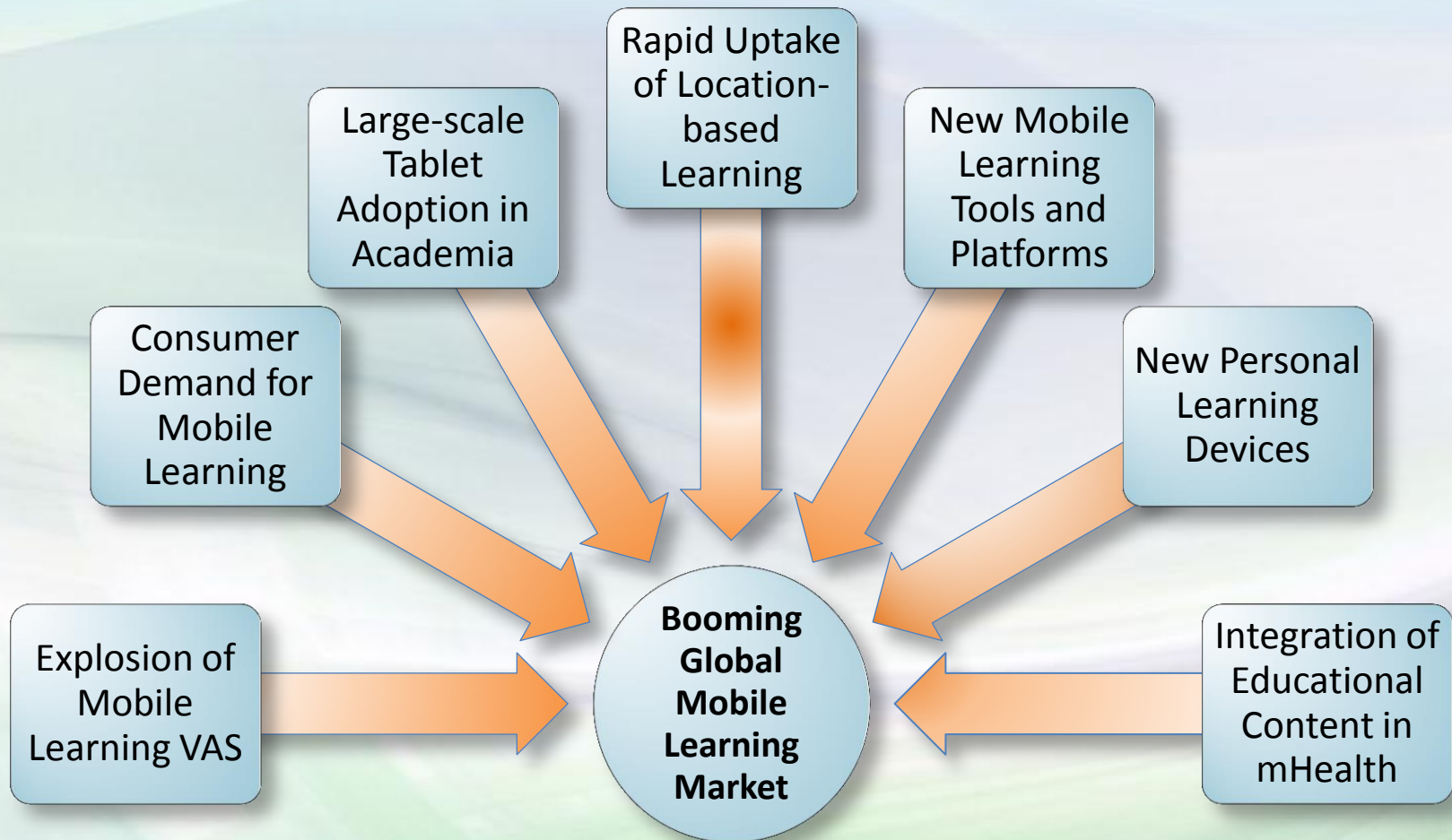
All Roads Lead to Mobile

"Mobile is an absolutely critical, if not 'the' growth driver for the industry for the next several years."

Frank Gibeau, President of Electronic Arts Labels
June 2013



The Convergent Catalysts in the Booming 2012 Worldwide Mobile Learning Market



Telecoms' new direct billing agreements with Nokia, Google, Microsoft, Samsung, and Blackberry are now major catalysts in developing economies



Six Types of Mobile Edugames in Ambient Insight's Research Taxonomy

[Ambient Insight's 2013 Learning Technology Research Taxonomy](#)

- Ambient Insight forecasts revenues for six types of Mobile Edugames:
 - Knowledge-based games
 - Skills-based games
 - Brain training and cognitive fitness games
 - Language learning games
 - Location-based learning edugames
 - Mobile augmented reality edugames
- Mobile edugames have higher price points than non-educational games
- Consumers and schools are willing to pay more for pedagogically-sound early childhood learning games



2012-2017 North America Edugame Forecast: All Roads Lead to Mobile

- Revenues for mobile edugames reached \$190.5 million in 2012. The growth rate (CAGR) is 15.3% and revenues will **more than double to** \$388.2 million by 2017
- In contrast, revenues for PC/Web/Console edugames are in relatively steep decline

North America Edugame Delivery Platform*	2012 Revenues in \$US Millions	2017 Revenues in \$US Millions	Five Year CAGR 2011-2016
Mobile Edugames	\$190.56	\$388.02	15.3%
Non-mobile Edugames	\$117.02	\$71.93	-9.3%
Total	\$307.58	\$459.95	8.4%

**Does not include custom content development services revenue*



What Sells?

Track the Top Selling Mobile Edugames by Country

- Free ranking sites track the top selling educational apps and games by country for:
 - Amazon Appstore, Apple App Store, BlackBerry World, Google Play Store, Nokia Ovi Store, Samsung Apps, Windows Phone Store, and Windows Store
 - There are often differences in app purchasing in different stores in the same country
- App Annie:
 - <http://www.appannie.com/top/iphone/united-states/education/>
- Distimo:
 - <http://www.distimo.com/leaderboards>



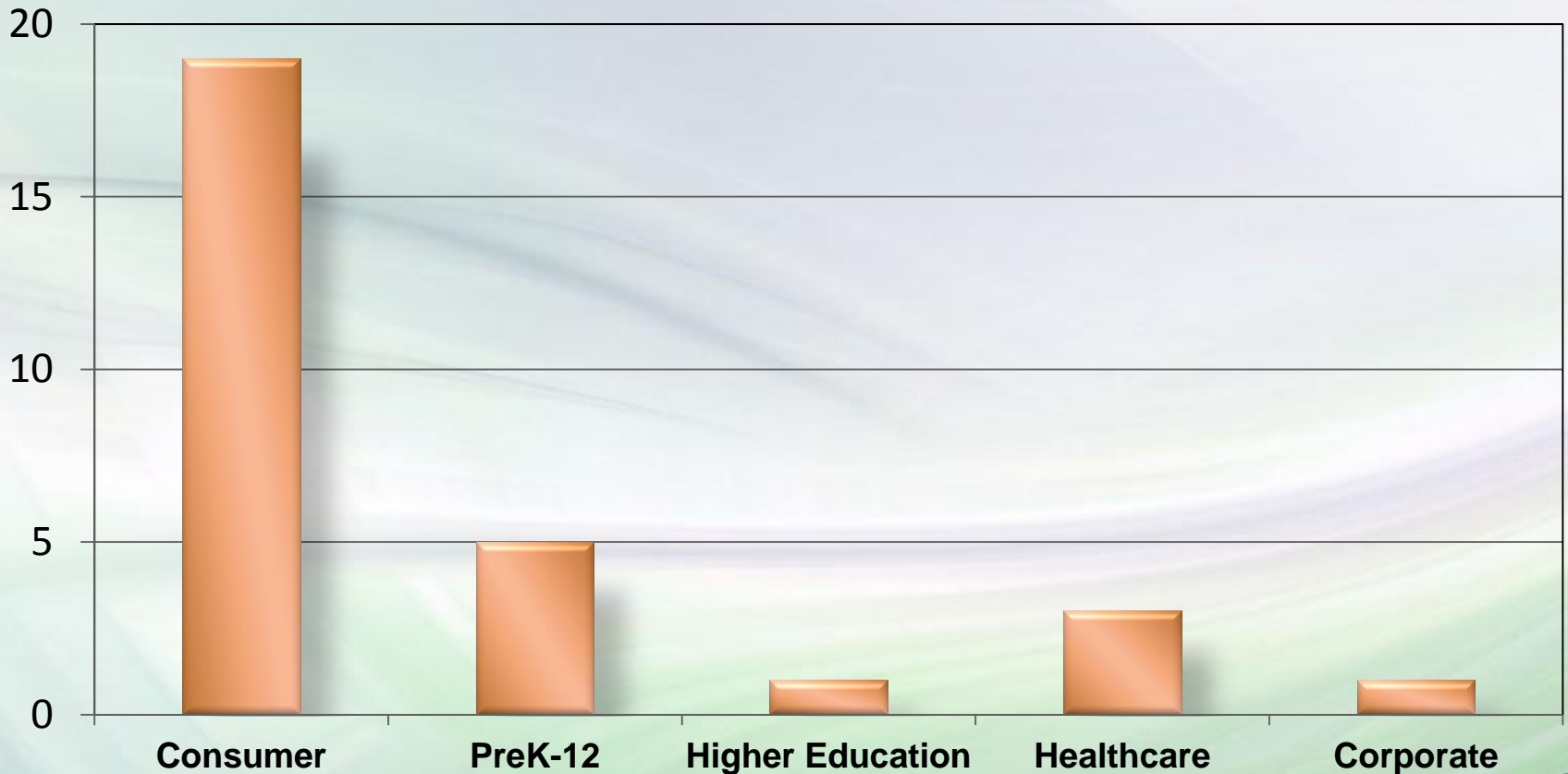
Leading Indicators: Game-based Learning Private Investment Patterns

- Game-based Learning companies garnered \$149.4 million in private funding in 2012
- Of the 33 Game-based Learning companies funded in 2012, **23 were mobile edugame companies**
- Breakout by Target Customer
 - 23 were consumer facing, with 20 of them targeting early childhood learning
 - 5 were PreK-12 – all of them targeting the early grades
 - 3 were healthcare-facing edugame companies
 - And only one investment each made to higher education and corporate edugame companies



Leading Indicators: Game-based Learning Private Investment Patterns

Number of Companies Funded by Target Customer Type



Q & A

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