

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

Key Findings from Recent Ambient Insight Research

Serious Play Conference 2013

*August 19-22, 2013*

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Ambient Insight



# 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

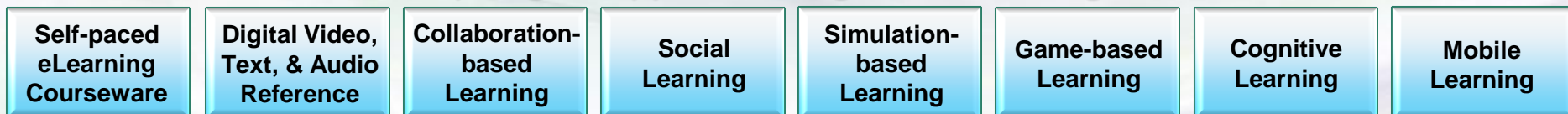
## Seven International Regions



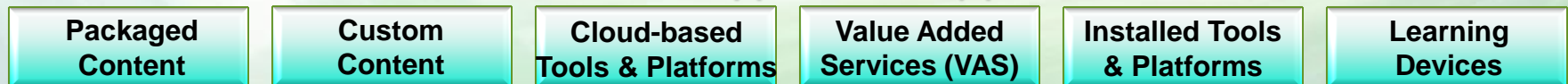
## Have Eight Buyer Segments



## 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.

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

\*\*\* 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.**

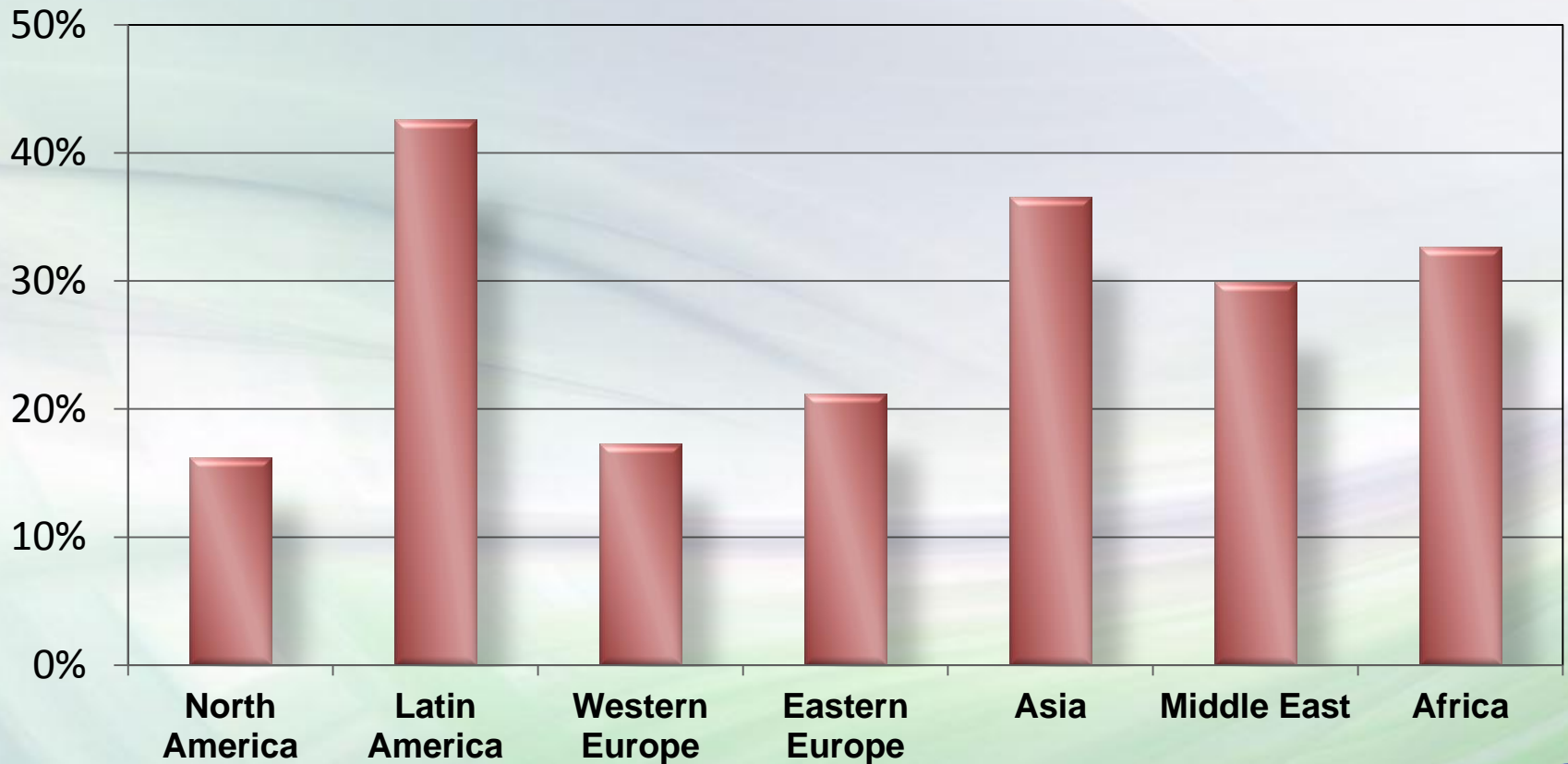
Simulation-based Learning by Region***	2012 Revenues in \$US Millions	2017 Revenues in \$US Millions	Five Year CAGR 2012-2017
North America	\$1,289.71	\$2,729.99	16.2%
Latin America	\$116.07	\$685.23	42.6%
Western Europe	\$451.40	\$1,001.91	17.3%
Eastern Europe	\$55.46	\$144.69	21.1%
Asia	\$374.02	\$1,774.49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

\*\*\* 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.**

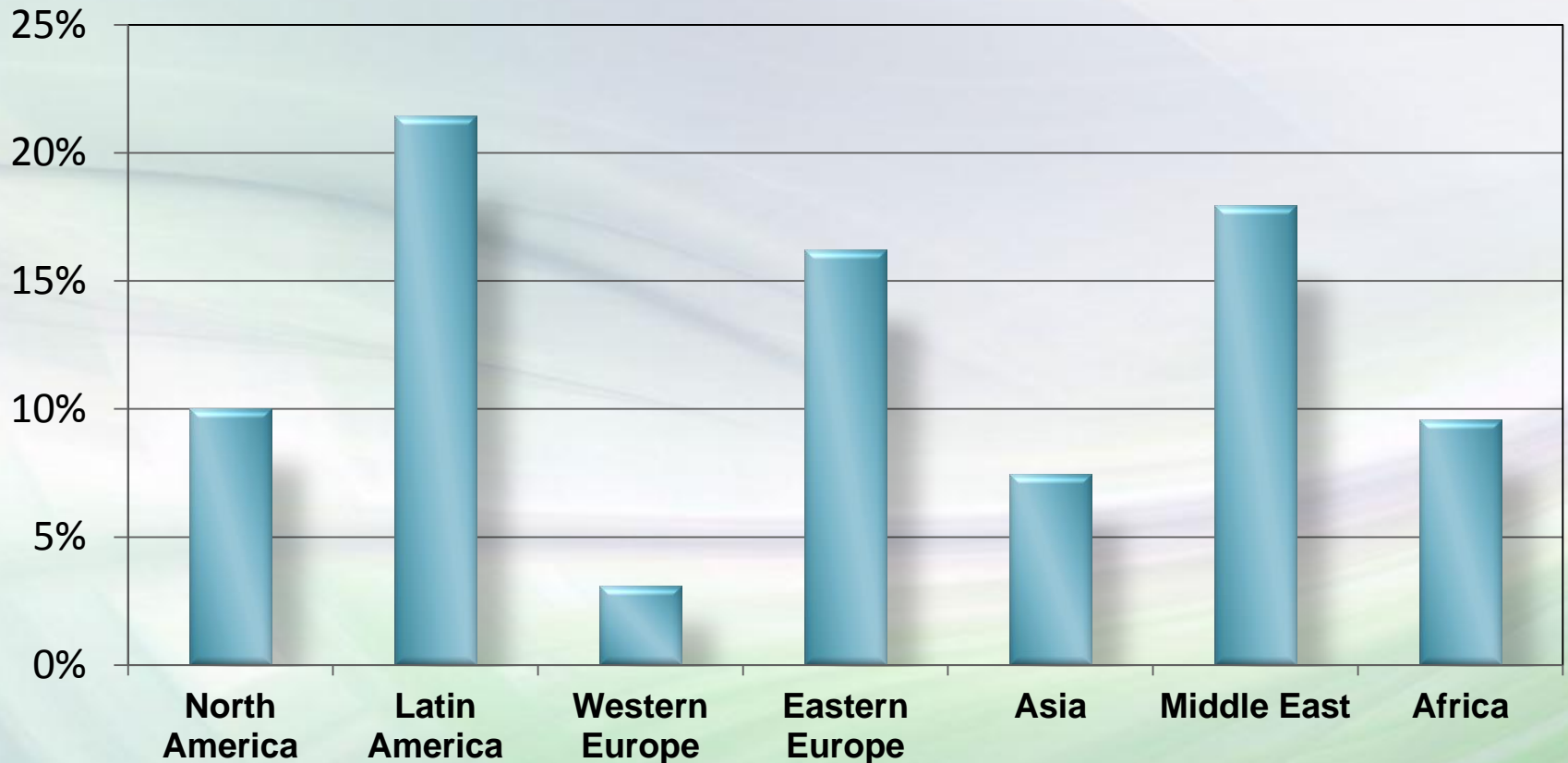
Game-based Learning by Region***	2012 Revenues in \$US Millions	2017 Revenues in \$US Millions	Five Year CAGR 2012-2017
North America	\$359.18	\$582.00	10.1%
Latin America	\$26.94	\$71.59	21.6%
Western Europe	\$96.98	\$113.49	3.2%
Eastern Europe	\$13.65	\$29.10	16.3%
Asia	\$1,029.43	\$1,475.01	7.5%
The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

\*\*\* 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%
<b>Total</b>	<b>\$359.18</b>	<b>\$582.00</b>	<b>10.1%</b>



# 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 <b>content</b>	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 <b>services</b>	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%
	<b>Total</b>	<b>\$1,548.44</b>	<b>\$2,309.60</b>	<b>8.3%</b>



# Buying Behavior is Different in Each Buyer Segment

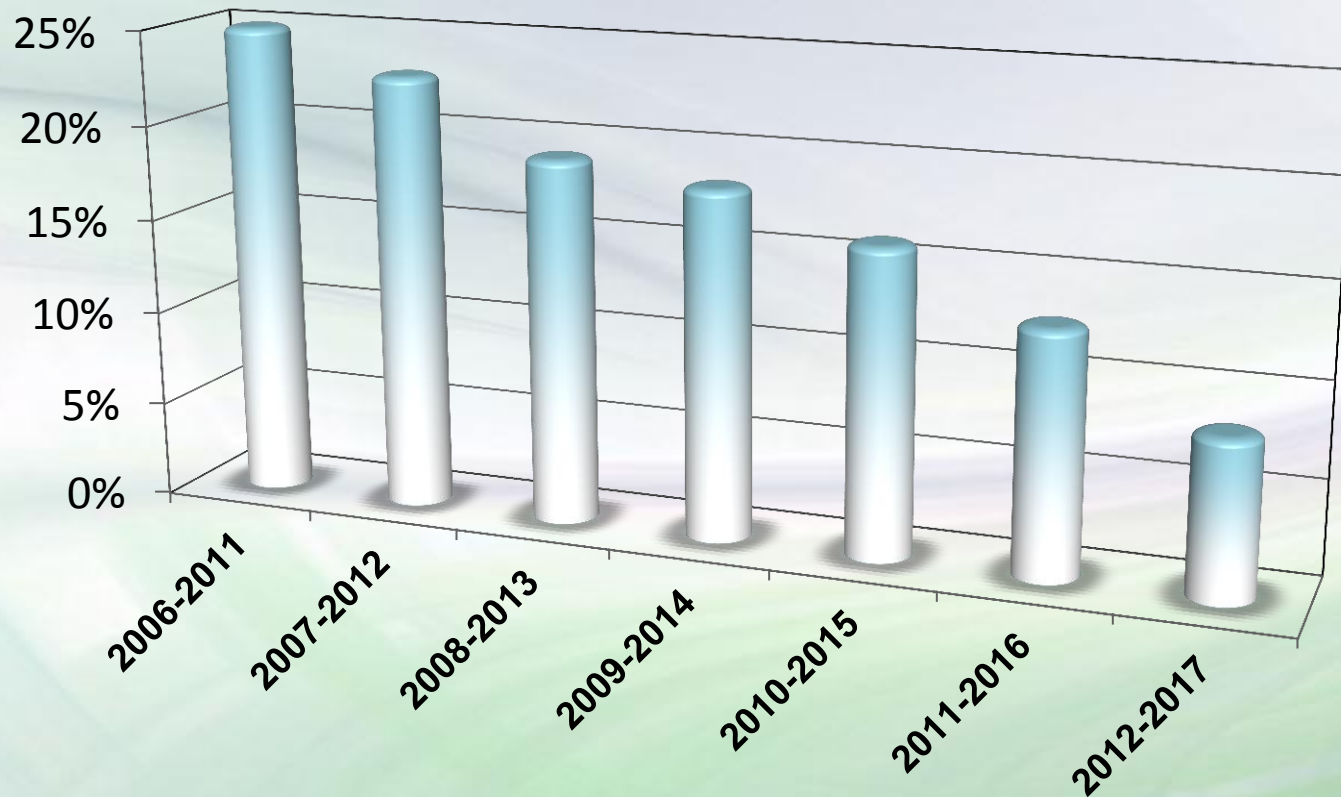
- Gaming consoles still banned in China
- Consumers gravitate to edugames for young children and brain training games for adults.
- Massive adoption of tablets in the schools across the planet is a major catalyst for Mobile Learning
- In the US, Game-based Learning is ubiquitous in the early grades but starts to taper out in middle school
  - Pearson shuttered 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

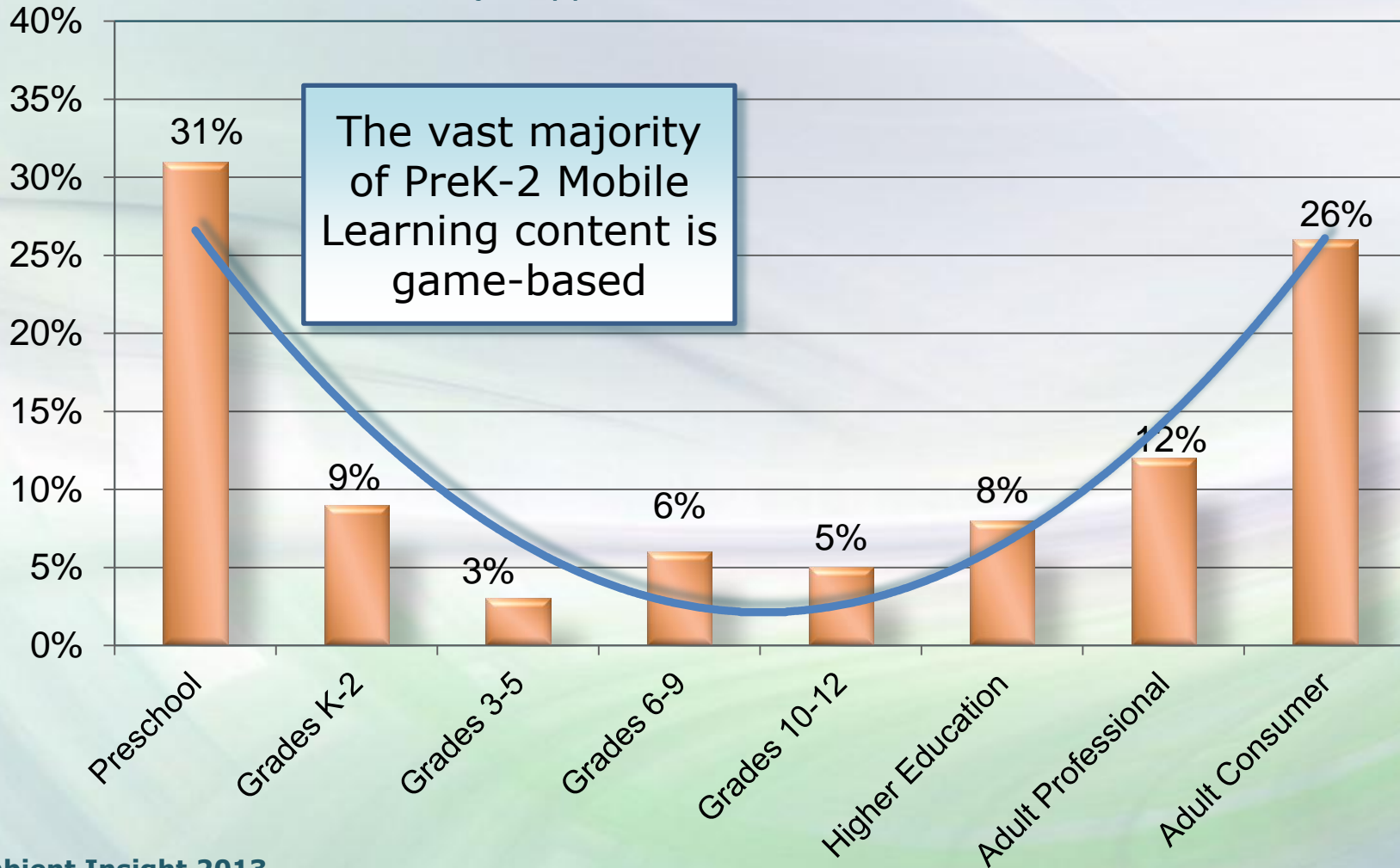




# "The 2012 Content Trench" – Percent of Total Paid Mobile Learning Apps by Target Demographic

## *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



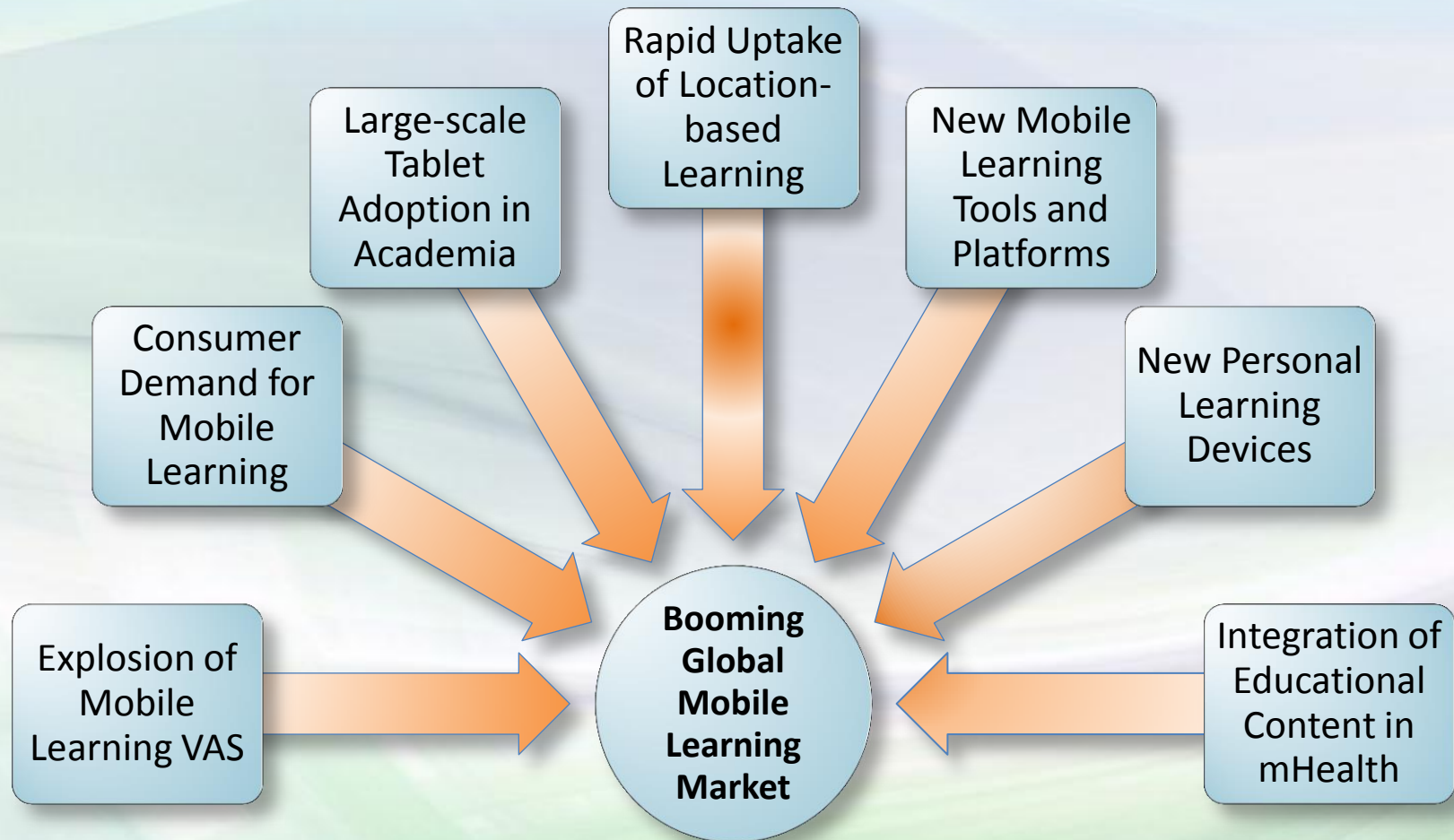
# All Roads Lead to Mobile

*"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%
<b>Total</b>	<b>\$307.58</b>	<b>\$459.95</b>	<b>8.4%</b>

*\*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>



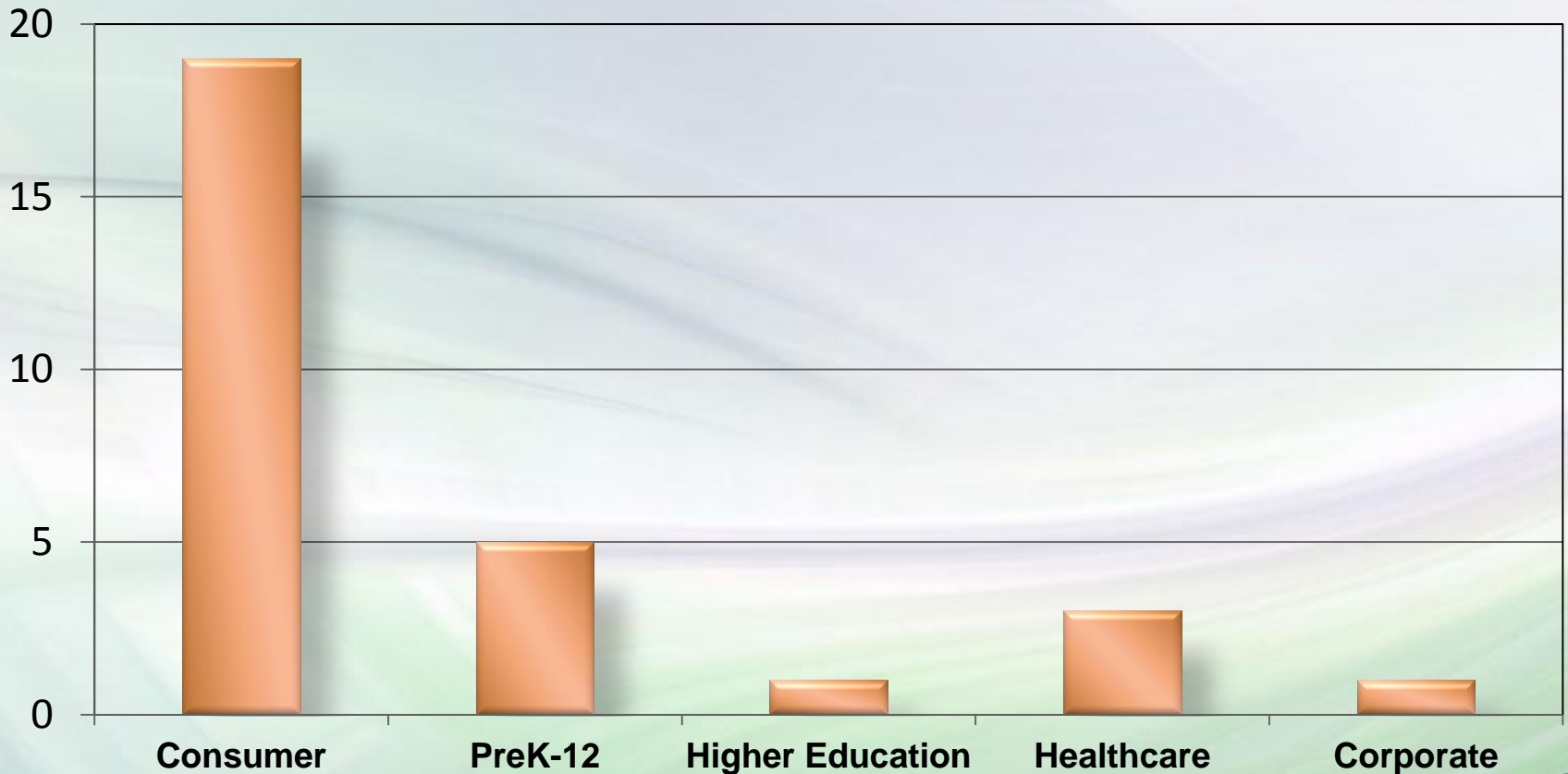
## Leading Indicators: Game-based Learning Private Investment Patterns

- 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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