



# *E-Book Readers Market Analysis and Forecast*

## *Insight Media*

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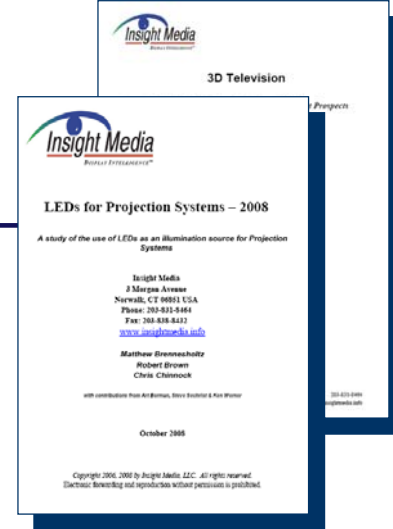
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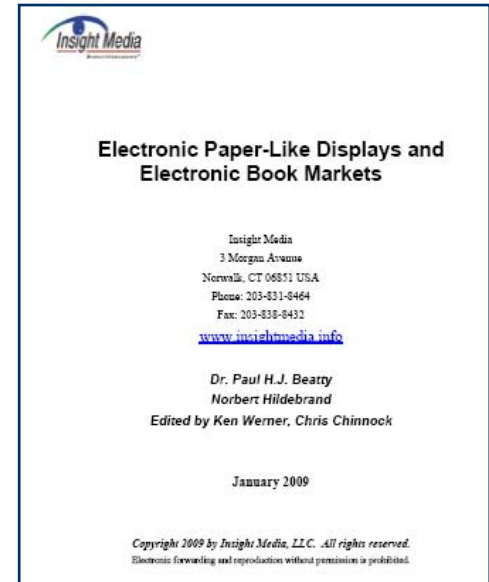
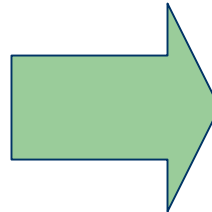
## □ Agenda

- Introduction Insight Media
- EBR Market Overview
- Market Analysis Methodology
  - Market Segmentation
  - Total Available Market and Adjustments
  - Market Segment Evaluation
  - Market Penetration Curves
- E-Textbook Market Segment
  - Adjusted TAM, Evaluation Chart and Forecast
- Conclusion



## Our Industry Reports

- Deep dive into display technology, markets or opportunities
- Focus on emerging technologies or markets in transition
- Build on our core strength in technology and market analysis
- Linking technology and market analysis to develop
  - ❑ Performance models
  - ❑ Cost models
  - ❑ Value propositions
  - ❑ Competitive analysis



## Up-Coming Reports

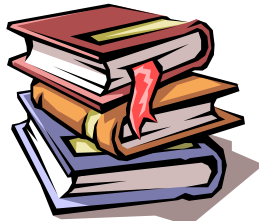
AS-3D Market Report  
1/2009

HUD Segment  
2/2009

Low Cost Projection  
3/2009

# EBR Market Overview

- EBRs change the use model for reading books:



**Book Purchase**

- Book Store
- Internet

**Read/Listen to Book**

- Printed Book
- Audio Book

**Book Storage**

- Home Library
- Exchange / Gift
- Reselling
- Donation/ Disposal

**EBR Purchase**

- Electronic Store
- Internet

**Book Purchase**

- Wireless / Internet
- File Format

**Read/Listen to Book**

- eBook
- Audio Book

**Book Storage**

- Electronic copy
- Delete
- Exchange / Gift ?
- Reselling?



# EBR Market Overview (cont.)

- ❑ The EBR market started to grow significantly in 2008
  - Amazon Kindle attracted a lot of attention (and sold out!)
  - Others came out with new models and prototypes



- ❑ Is the market ready to take off?
- ❑ Where are we going from here?
- ❑ What is the forecast for the next 5 years?



# Market Analysis Methodology

- We used the following method to analyze the market:

## Market Segmentation

- divide the market in clearly defined market segments

## Adjusted TAM

- create and adjust total available market figure

## Market Penetration Curves

- define market penetration curves for similar products

## Market Segment Evaluation

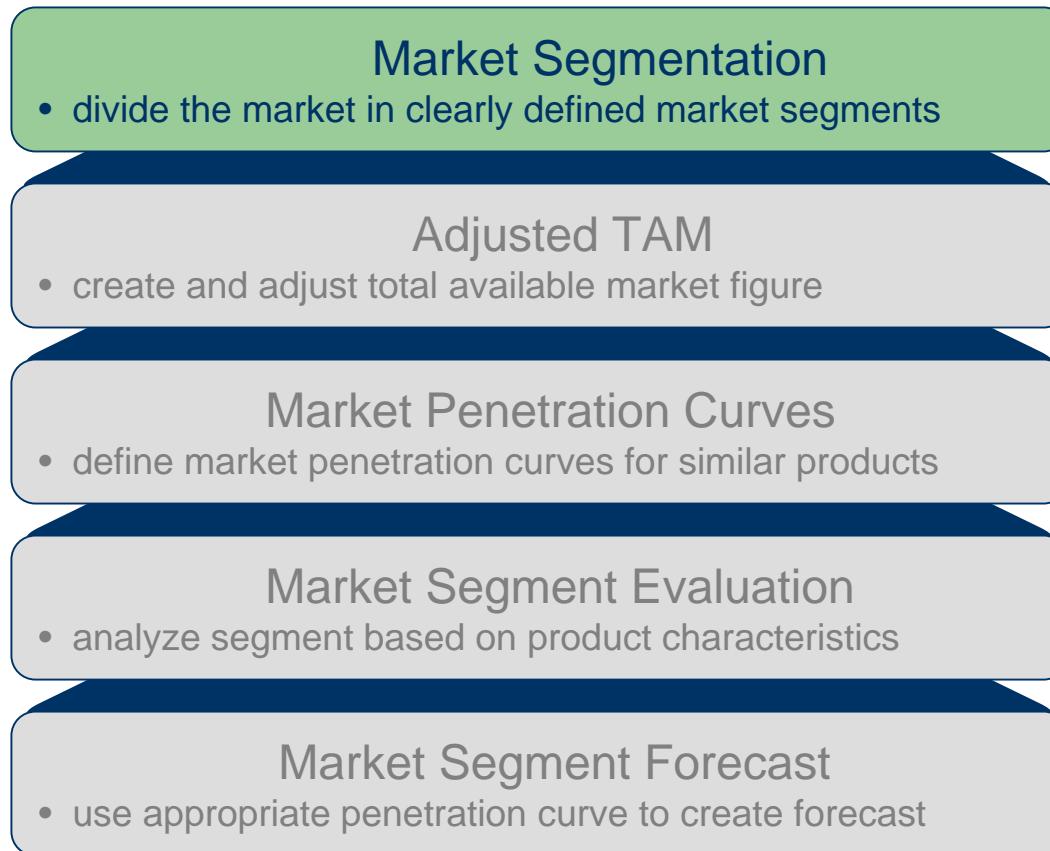
- analyze segment based on product characteristics

## Market Segment Forecast

- use appropriate penetration curve to create forecast

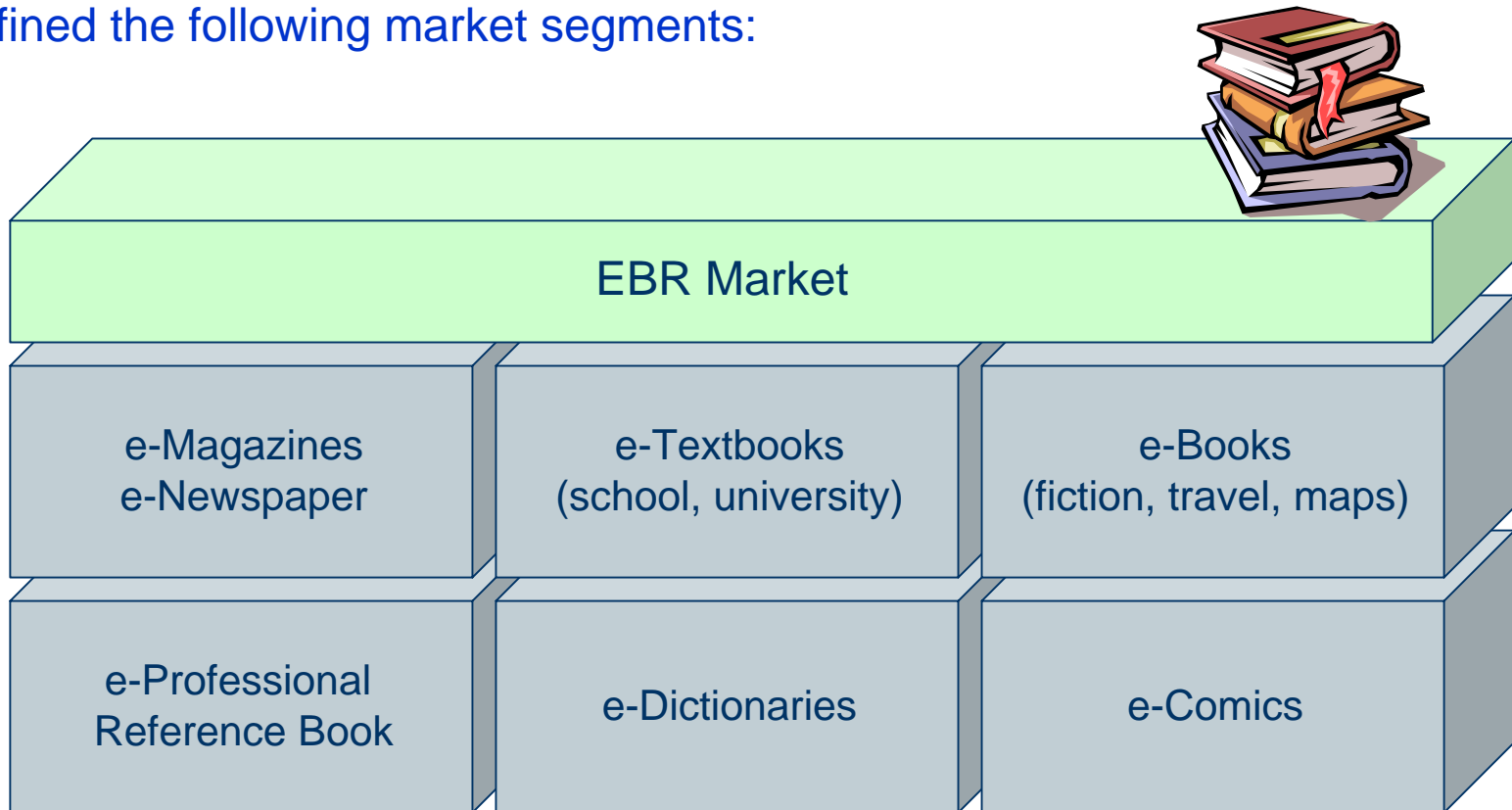
# Market Analysis Methodology

- First we segment the market:



# Market Segmentation

- ❑ Divide and Conquer: Market Segmentation
- ❑ Market Segmentation is the basis for every comprehensive market analysis. We defined the following market segments:



# Market Analysis Methodology

- We need to create a total available market figure:

**Market Segmentation**

- divide the market in clearly defined market segments

**Adjusted TAM**

- create and adjust total available market figure

**Market Penetration Curves**

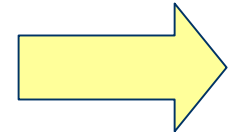
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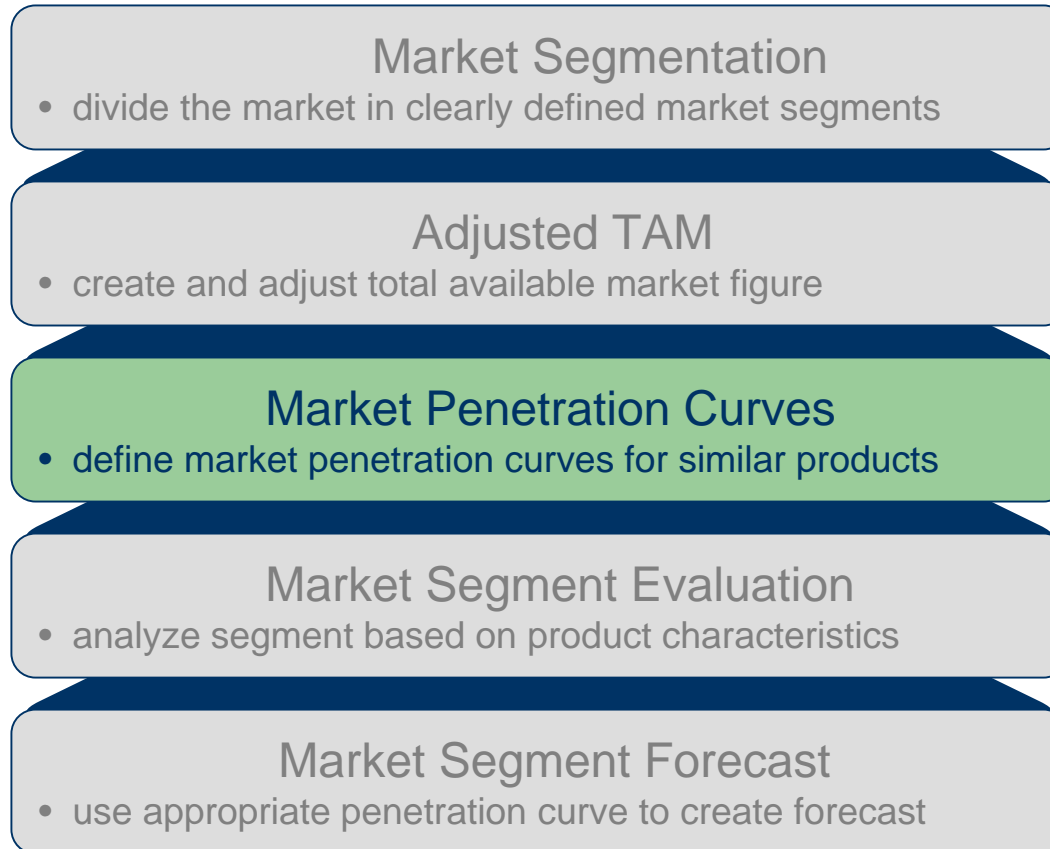
# TAM and Adjustments

- ❑ The total available market depends on the segment:
  - We are using only USA, Japan and Europe as the basis for our TAM!

	TAM	Adjusted TAM
e-Books	Population	80% of Population
e-Newspaper	Population	Newspaper Circulation
e-Textbooks	Students	50%-66% of Students
e-Reference	Professionals	Service Professionals
e-Dictionary	Population	Electronic Dictionaries
e-Comics	Population	Comic Readers

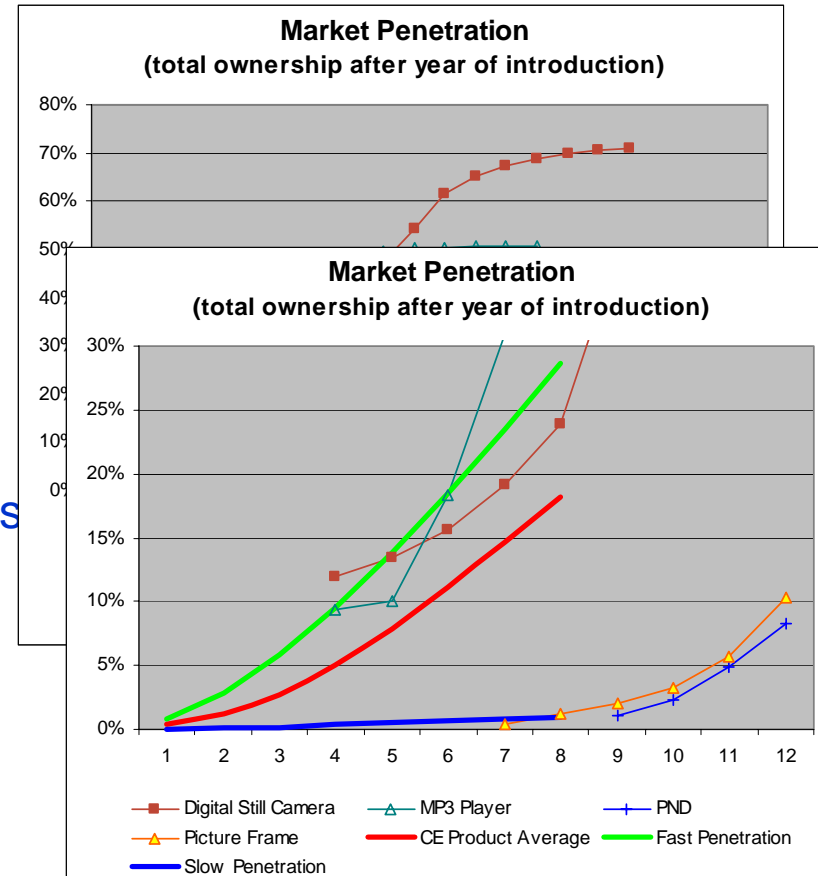
# Market Analysis Methodology

- We use other product examples to forecast the market penetration:



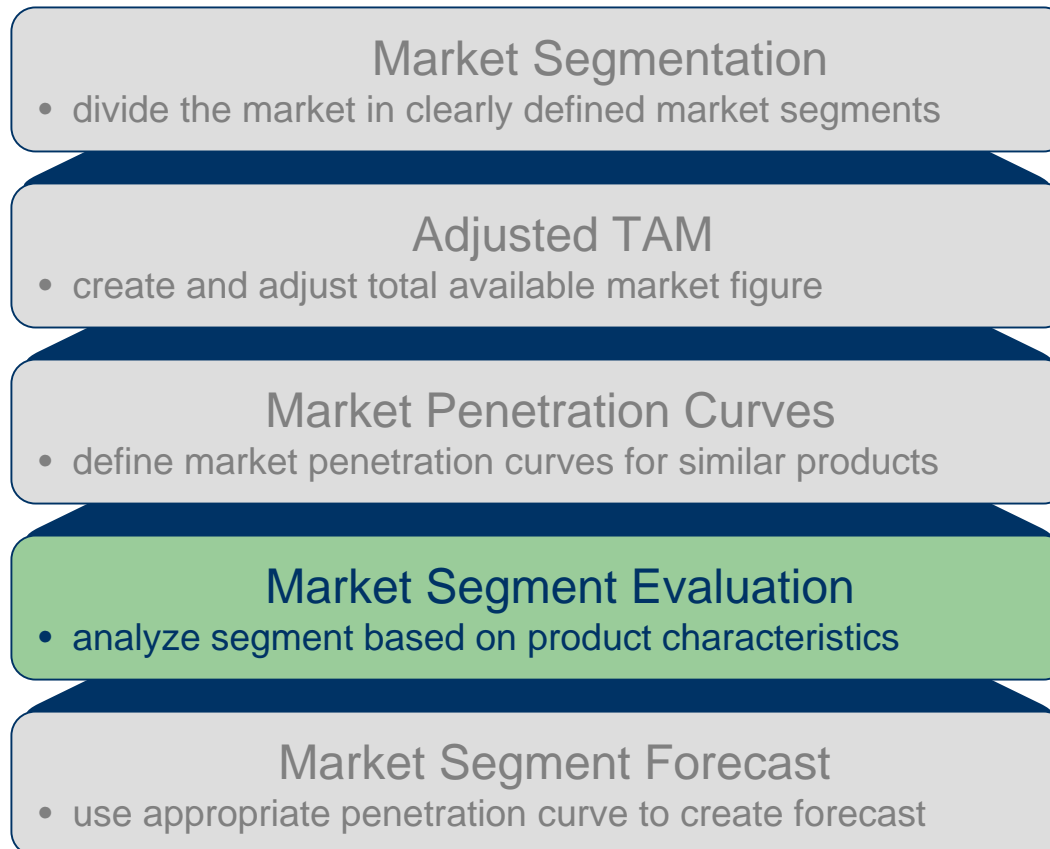
# Market Penetration Curves

- ❑ Market penetration of a new product depends on many factors that are unique to each product.
  - Value Proposition
  - Marketing Effort
  - Sales Channels
  - Economic Condition
  - and others ...
  
- ❑ We take historic data of comparable products and look at market penetration curves
  - Basis is the CE-Average Penetration
  - In addition we define a Slow and a Fast Penetration Curve



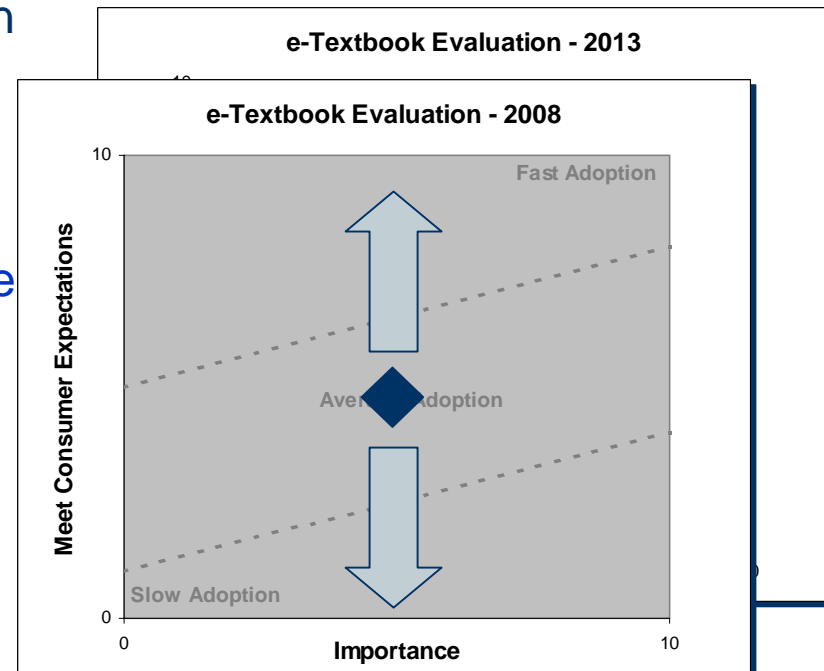
# Market Analysis Methodology

- We evaluate each segment :



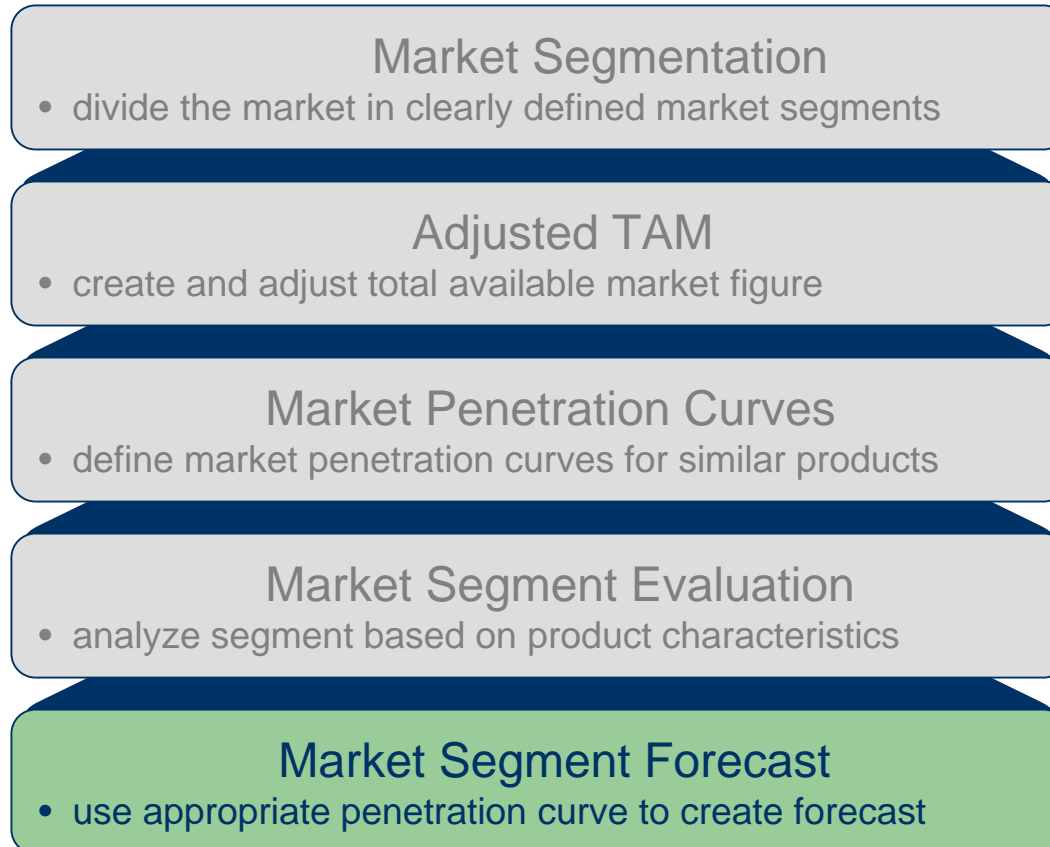
# Market Segment Evaluation

- ❑ The value proposition of a product drives its adoption in the market place. The value proposition can be evaluated with a modified Multiple Criteria Decision Analysis.
  1. We define product characteristics important for the adoption
  2. We assess each characteristic based on
    - Importance
    - Score for meeting expectations
- ❑ High Scores lead to a Fast penetration, while Low Scores result in a Slow Adoption.
  - We perform this assessment for the first and last year of the forecasting period



# Market Analysis Methodology

- After performing all described steps we derive at a segment forecast:

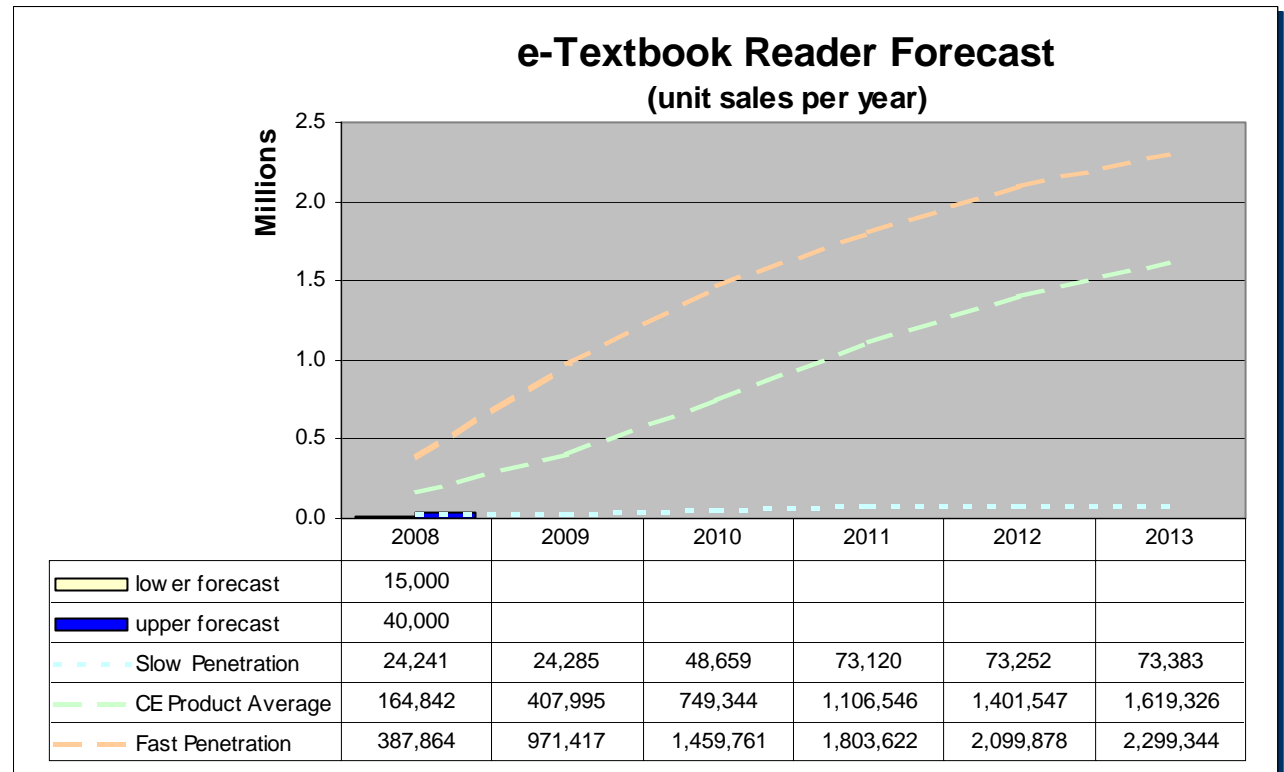


# Market Segment Forecast

- Based on the adjusted TAM and the penetration curves we come to potential sales curves

- Slow
- Average
- Fast

- The evaluation chart helps to define which adoption curve to choose!



# Market Analysis Methodology

- We follow this process for each market segment

## Market Segmentation

- divide the market in clearly defined market segments

## Adjusted TAM

- create and adjust total available market figure

## Market Penetration Curves

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## Market Segment Evaluation

- analyze segment based on product characteristics

## Market Segment Forecast

- use appropriate penetration curve to create forecast



# E-Textbook Market Segment

- ❑ As an example of one defined market segment we are showing the results for the e-Textbook market segment.
  - Students need textbooks
  - Cost can reach \$1,000 / y
  - Students are open to try new things
  - Computers are already standard

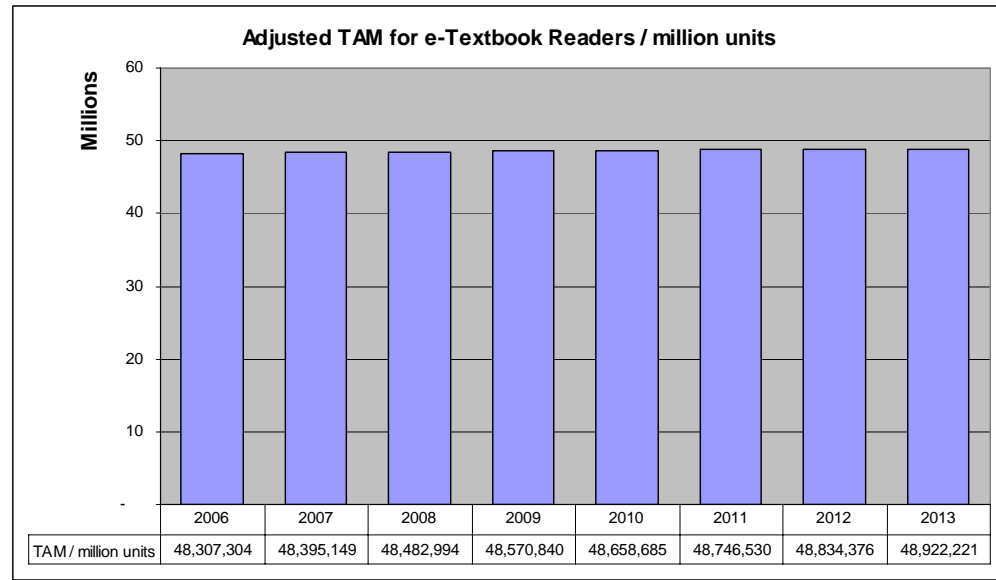


In addition:

- ❑ EBR players have already expressed interest in this market segment
- ❑ Wireless versions could integrate an electronic curriculum function

# Adjusted TAM

- ❑ Basis for the TAM is the student population in our forecasting area during the forecasting period
  - Includes a forecast of student numbers for the forecasting period
- ❑ We adjust the student numbers for smaller, poorer, more conservative institutions and level of education
  - 0% of Elementary and Middle schools
  - 50% of High schools
  - 66% of Universities / Colleges



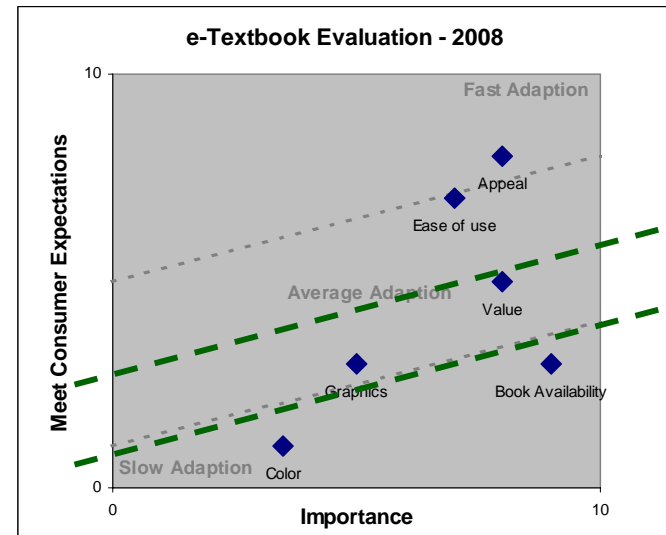
# Evaluation Chart

- First we define the characteristics important for e-Textbooks

Value	Price versus cost of books
Appeal	Sexiness of the EBR
Book availability	Availability of Textbooks for EBR
Ease of Use	Making reading tasks easy
Graphic capability	Graphics resolution
Color capability	Color representation

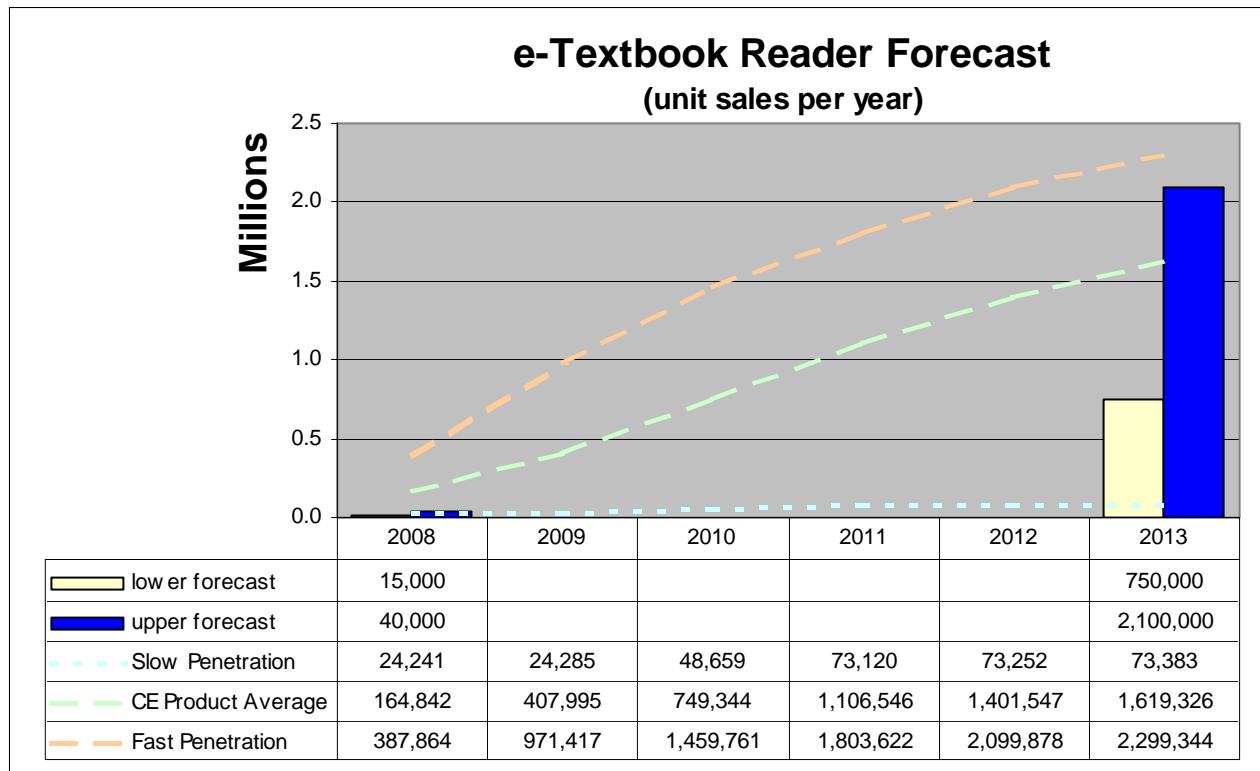
- Then we assess Importance and Score:

e-Textbook Evaluation Matrix 2008		
Issue	Importance [0-10]	Score [0-10]
Value	8	5
Appeal	8	8
Book Availability	9	3
Ease of use	7	7
Graphics	5	3
Color	3.5	1



# Forecast

- After completing the process we arrive at a market segment forecast for e-Textbooks:



# Conclusion

- ❑ Our EBR Report:
  - Breaks down the forecast in manageable segments
  - Follows a systematic approach within each segment
  - Makes the forecast fully transparent to the reader
  - Allows the reader to change our assumptions and  
Create a modified forecast
  - Also adds
    - Technology Discussion
    - EBR Price Analysis
    - Identifies upside Sales Potential



# EBR Report - 2009

For complete report information covering

- E-Paper Technology Overview
- E-Paper and EBR Market Players
- EBR Price Analysis
- EBR Applications
- EBR Market Report

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# Norbert Hildebrand

- ❑ **Materials and Business Development Expert**
  - 22 years of R+D, Production and Business development experience in European and North American industries
  - General management experience in North American High-Tech markets such as FED, Micro-Display, Biotech, Semiconductor, Fire Resistant Glazing, and Anti-Ballistic Glazing Industries
  - Introduced new laser cutting equipment for very thin glass substrates
  - Directed lobbying in Washington D.C. and created new business opportunities exceeding \$20million in revenue per year
  - Long-standing active involvement in USDC, SID, SEMI, AIA, GANA, GICC and other industry organizations
  
- ❑ **Dr. (Nuclear Chemistry) and Diploma (Chemistry) from Gutenberg University of Mainz, Germany**

