

Critical Evaluation of Prices in the Information Technology Age:

HISTORY, FEATURES AND CRITICAL COMPARISON OF
COST BASED, MARKET/VALUE BASED, AND
WILLFULLY/ARBITRARY PRICES

AUTHOR: FABIAN HEKELE

MATRICULATION NUMBER: 01604392

LECTURE NUMBER: 4152

LECTURER: UNIV.PROF. DR. RONY G. FLATSCHER



Table of Contents

- I. Information on the Seminar Paper
- II. Historical Perspective of Pricing
- III. An Introduction to cost-based, value-based & arbitrage pricing
- IV. Critical Evaluation of Prices in the Information Technology Age
- V. Discussion

I. Information on the Seminar Paper

The preparation and writing of the seminar paper has been divided into four blocks.

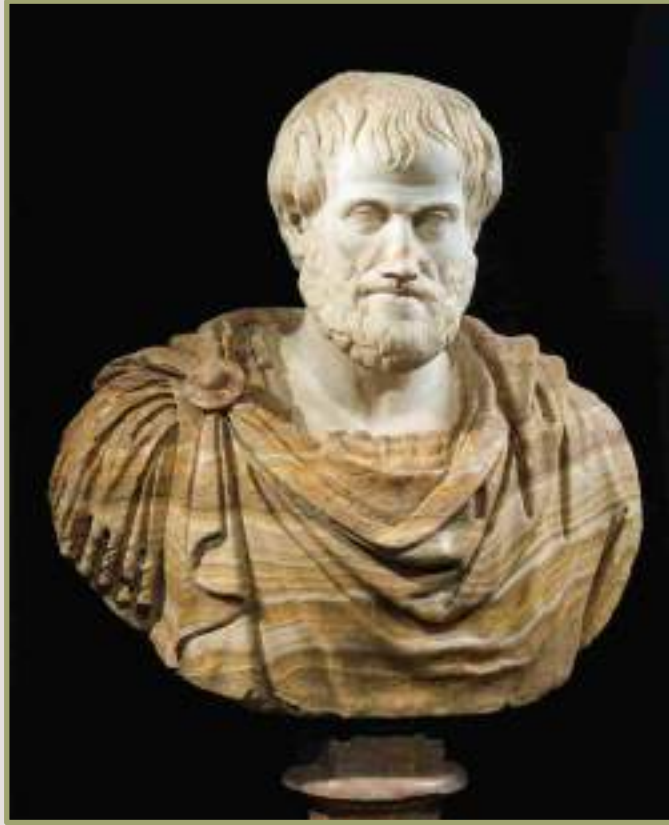


Facts about the Seminar Paper

- 41 pages in total, **32 pages of continuous text**
- No in-depth previous knowledge, but **basic knowledge of pricing**
- **First seminar paper** that was written in **English**
- In summary: **A demanding, but definitely interesting topic that has been extensively discussed and analyzed**

Table of contents of the seminar paper

◦ Declaration of Authenticity	2	◦ 3.3. Arbitrage Pricing	19-20
◦ Abstract	3	◦ 3.4. The Pricing Capability Grid	21-22
◦ Table of Contents	4	◦ 4. Critical Comparison of Prices in the	
◦ List of Figures	5	Information Technology Age	22-37
◦ 1. Introduction	6	◦ 4.1. Pricing Strategies of	
◦ 2. Pricing – A Historical Perspective	7-15	Software Companies	22-26
◦ 2.1. Antique - Aristotle and Insights into		◦ 4.2. Pricing Strategies in the	
the Roman Economy	7-9	Mobile Gaming Industry	26-28
◦ 2.2. Pre-classical Times - Scholasticism,		◦ 4.3. Importance of Data and Current	
Mercantilism and Physiocracy	9-11	Development in Pricing	28-37
◦ 2.3. Classicism – Adam Smith,		◦ 4.3.1 Pricing of Data	28-31
Jean-Baptiste Say and David Ricardo	12-14	◦ 4.3.2 Personalized and	
◦ 2.4. Pricing in Modern Times –		Behavior-based Pricing	31-33
Neoclassicism and Consumption Theory	14-15	◦ 4.3.3 Outlook on Future	
◦ 3. Pricing - Theories and Concepts	15-22	Developments	34-36
◦ 3.1. Cost-based Pricing	16-17	◦ 5. Conclusion	36-38
◦ 3.2. Value-based Pricing	17-19	◦ References	39-41



II. Historical Perspective of Pricing

Antique & Pre-classical Times

Antique

- A time of great cultural development and **philosophical knowledge**
- **First economic considerations** on the equilibrium of exchange and justice **by Aristotle**
- **Ancient Rome** as the first empire with a **uniform monetary system**
- Prices in ancient Rome for wheat depend on the distance from Rome

Pre-classical Times

- religious and **power-political influences on prices**
- Trade in a **local markets**, focus on agriculture
- **Thomas Aquinas** developed the **concept of the just price**
- Doctrines of **Scholasticism, Mercantilism, and Physiocracy**

Classicism & Neo-classicism

Classicism

- **Adam Smith** as the father of modern economic theory
- Differentiation between **market price** and **natural price**
- **Influence of supply and demand on price level**
- **David Ricardo** brings interest into economic theory and **takes time components into account for price formation**

Neo-classicism

- **Modern economic theory is based on neoclassical ideas**
- No longer the entire economy in **focus**, but **individual subjects**
- **Consumption theory** as a foundation for modern microeconomics
- **Willingness of consumers to pay becomes relevant** for the first time

The background features three classical columns with fluted shafts and papyrus capitals, set against a light blue background. Numerous white, curled paper scraps are scattered throughout the scene, appearing to fall or be blown around the columns. The overall aesthetic is clean and academic.

Quick Question

„Do You think that insights from philosophers like Thomas Aquinas are still relevant in pricing today?“



III. An Introduction to cost-based, value-based & arbitrage pricing

Three Pricing Strategies



COST-BASED
PRICING



VALUE-BASED
PRICING



ARBITRARY
PRICING

Features of the Pricing Strategies



COST-BASED PRICING

- **Price is determined by costs** and pre-determined **profit mark-up**
- **Advantages:** simple calculation method, calculation of prices with historical data
- **Disadvantages:** The calculation base must be complete, **competition and demand not taken into account**



VALUE-BASED PRICING

- **Price is determined with the perceived value for the customer**
- **Advantages:** Price reflects value **exactly**, ideal for providers and consumers
- **Disadvantages:** difficult to **determine value precisely** in practice



ARBITRARY PRICING

- **Markets are not always in balance**, so prices are sometimes too high or too low
- **Advantages:** new products and innovations **can often be offered with surcharges**
- **Disadvantages:** Disadvantages **for the customer**, the value of the goods does not correspond to the price level

Quick Question



Which of the presented pricing methods would you pursue as an entrepreneur?



IV. Critical Evaluation of Prices in the Information Technology Age

Pricing Strategies of Software Companies I

- Software is becoming more and more relevant in the corporate context
- New technologies and **5G enable large amounts of data to be exchanged in real time around the world**
- Focus: **Cloud Computing - Software as a Service**, Security as a Service, **Infrastructure as a Service**

Pricing Strategies of Software Companies II

- Instead of entire ERP systems, only **rent of individual modules**
- License purchase and software maintenance contracts replaced by **rental contracts**
- individually bookable, **flexibly expandable**
- Examples of providers: **SAP, Salesforce**, Microsoft and Adobe

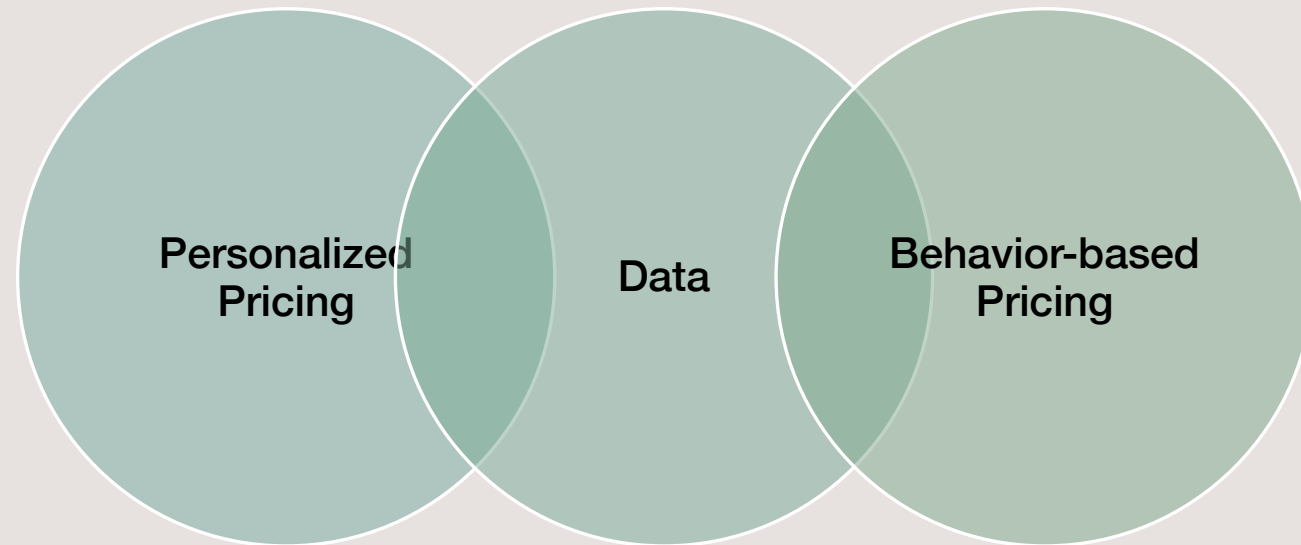
Pricing Strategies in the Mobile Gaming Industry



- **Mobile games market share increases**, penetration rate is 23.9% in 2021
- Focus: **free-to-play games**
- Free to play, but **benefits from in-app purchases**
- Use of an **internal monetary system**
- Currency must be bought with real money
- **Computer games are much cheaper**, although technically much more complex

Importance and Current Development of Pricing

In the age of information technology, **data forms the basis for modern pricing strategies**



Pricing of Data

- The **importance of data in business is increasing rapidly**
- Data is important in all areas of the company
- Data is traded through data marketplaces
- Relevant data: **sensor data**, geographic data, **personal data**
- Factors for the value and **price level of data: freshness and level of detail**
- Data marketplaces: Xignite and **Microsoft Azure Marketplace**

Personalized and Behavior-based Pricing

Personalized Pricing

- With the help of user data, **personal offers** are made
- Goal: to have the **most detailed picture of the customer** available
- **Privacy is a major point of contention**
- Is viewed quite critically in politics and society

Behavior-based Pricing

- Here, too, **user data basis**, but with **reference to the past**
- The **focus is on the customer's purchase history**
- In practice: **Internet cookies** and automatic data collection
- Problem for both strategies: **companies are not transparent about the data usage**

Outlook into the future

- **Pricing will remain highly relevant** across all industries in the future
- **Environmental and climate policy** will have an **impact on prices**
 - > **companies** like Apple have already **set their own agenda**
- **Algorithmic pricing** will become hugely relevant in the 2020s
- **Bundling** as a pricing strategy **is experiencing a revival with personalized pricing and data usage**
- **Value-based pricing** and perceived value are also gaining in importance



Time for Questions & Discussion

Sources

Pictures:

- <https://thebulwark.com/voter-suppression-and-civic-vice/>
- <http://www.kathpedia.com/images/1/18/Thomas.von.Aquin3.jpg>
- <https://image.geo.de/30038910/t/ou/v3/w1440/r0/-/aristoteles-gross-jpg--15039-.jpg>
- <https://media1.faz.net/ppmedia/aktuell/wirtschaft/3914681745/1.2536885/width610x580/adam-smith-1723-1790.jpg>
- <https://www.elegantthemes.com/blog/wp-content/uploads/2021/04/featured-discussion-settings.png>
- https://www.pngkey.com/png/full/809-8090447_the-graphic-concrete-technology-enables-cost-effective-gloucester.png
- <https://www.kpsol.com/wp-content/uploads/2017/09/discussion-featured.jpg>
- https://www.microsoft.com/en-us/research/uploads/prod/2019/11/Area_IconHeader_OtherSci_Econ_11_2019_1920x7202.png
- <https://blog.empatico.org/wp-content/uploads/2018/11/critical-thinking-activities.png>
- https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRk23sNSEDUC1fCbIKGLs0gOusmDLmN78wgAwwTmyeeR5O5lz6OtpkMb5vPvFeChs_vfcc&usqp=CAU
- <https://i.redd.it/m1j7x2cyytq31.jpg>