



مدیریت مالی، حسابداری و هزینه در پروژه ها و سازمان های پروژه محور

بخش اول:
مقدمه: معرفی دوره آموزشی

ارائه دهنده:

سید محمدرضا علوی پور

(PhD, PMP, CMIT)

Road map

مهارت های سخت (Hard Skills) - سطح کارشناسی و اجرایی

ارائه گواهینامه حضور بر اساس حضور بیش از ۶۰ درصد در دوره
و گواهینامه حرفه ای بر اساس قبولی در آزمون برای هر دوره

سطح ۵	سطح ۴	سطح ۳	سطح ۲	سطح ۱	دپارتمان
	استاندارد مدیریت ساخت CMAA	متدولوژی Prince2	راهنمای PMBOK		مدیریت پروژه
	تامین مالی پروژه			مدیریت مالی و هزینه پروژه ارزیابی اقتصادی پروژه	مدیریت مالی و هزینه
				برنامه ریزی و کنترل پروژه نرم افزار MSP نرم افزار Primavera	مدیریت برنامه ریزی و زمان بندی
		مدیریت کیفیت پروژه			مدیریت کیفیت
اجرای پروژه به روش CM			مدیریت ادعاء و اختلافات	آنالیز تاخیرات پروژه	مدیریت قرارداد
		مدیریت ایمنی پروژه			مدیریت ایمنی
مدیریت طرح		مدیریت چابک Agile	مدیریت پروژه به روش Lean دفتر مدیریت پروژه PMO		مدیریت طرح و برنامه
		مدیریت پایداری پروژه			مدیریت پایداری
			مدیریت ریسک پروژه		مدیریت ریسک
			نرم افزار Power BI	مدیریت اسناد و مدارک پروژه	مدیریت اطلاعات
	مدیریت BIM در پروژه		نرم افزارهای BIM		مدلسازی اطلاعات ساختمان (BIM)

بر اساس مطالعات انجام شده بیشترین عامل ورشکستگی سازمان‌ها پروژه محور مسائل مالی پروژه‌ها است. در نتیجه برای کاهش عوامل شکست این سازمان‌ها، مدیریت صحیح مالی، حسابداری به همراه کنترل هزینه‌ها از اهمیت بالایی برخوردار می‌باشد. اما نکته مهم این است که ساختار سازمان‌های پروژه‌محور با ساختار سایر سازمان‌ها متفاوت می‌باشد. به همین دلیل، سازمان‌های پروژه‌محور به ایجاد سیستم استاندارد مدیریت مالی، حسابداری و هزینه منطبق بر فعالیت خود نیاز دارند. ساختاری که باید به صورت یکپارچه تدوین شده و در تمامی سطوح سازمان، مکانیزم‌های اجرایی و مطابقت‌سازی آن با پروژه‌ها صورت گیرد. از اینرو، برای مدیریت صحیح مالی و حسابداری و کنترل هزینه‌ها در این سازمان‌ها، لازم است استاندارد رویه موجود را فرا بگیریم. استاندارد رویه ای که در این دوره به صورت جامع به آن خواهیم پرداخت و در یک فرآیند کاملاً ساختار یافته این مبانی را به شما آموزش خواهیم داد تا بتوانید تمامی این مکانیزم را در سازمانتان پیاده سازی نمایید. نکته مهم دیگر آنست که باید بدانیم برای ارائه لایحه تاخیرات و البته کمی‌سازی مالی تاخیرات پروژه، وجود این ساختار که اساس استفاده از فرمول‌های کمی‌سازی را تشکیل می‌دهد، الزامی بوده و بدون این ساختار قادر به کمی‌سازی تاخیرات پروژه از منظر مالی نخواهیم بود.

آنچه خواهید آموخت

موارد مطرح شده در دوره سال‌ها در پروژه‌ها و سازمان‌های پروژه‌محور به نحو کاربردی در دنیا به کار گرفته شده است. با درک این مباحث می‌توانید اقدام به طراحی صحیح سیستم حسابداری پروژه نموده و هزینه پروژه و رقم پیشنهادی قرارداد را به درستی برآورد کنید. سپس بر اساس سیستم حسابداری طراحی شده که منطبق بر ساختار پروژه است، می‌توانید شبکه جریان‌های نقدینگی و هزینه پروژه را به طرز اصولی مدیریت نمایید. ساختار یکپارچه ای که تمامی موارد را در یک نقشه راه کنار هم قرار خواهد داد تا:

۱. اهمیت و تفاوت‌های ساختار یکپارچه حسابداری، هزینه و مالی را در پروژه‌ها و سازمان‌های پروژه‌محور بیاموزید.
۲. نحوه ساختارسازی حسابداری پروژه و تشکیل دفترهای کل، صورت سود و زیان، دفاتر کل هزینه پروژه و ماشین آلات، سیستم کدگذاری دفاتر، انواع تراکنش‌های پروژه و سیستم‌های حسابداری و اهمیت ساختار مالیاتی پروژه را فرا بگیرید.
۳. نحوه مدیریت هزینه را از مرحله برآورد هزینه، تدوین بودجه، تخصیص هزینه و مدیریت هزینه پروژه را به شکل کامل فرا بگیرید.
۴. ساختار تجزیه و تحلیل صورتهای مالی سازمان پروژه محور را همراه با پیش‌بینی شبکه جریان‌های نقدینگی پروژه و سازمان را برای تعیین کسری بودجه به صورت کامل فرا بگیرید.

۱. مقدمه و ملاحظات کلی در مدیریت مالی و حسابداری پروژه

۲. مدیریت حسابداری پروژه

- سیستم حسابداری پروژه: نوع حسابداری پروژه و ارتباط آن با محاسبه مالیات، ساختارهای صحیح مالی و دسته‌بندی سرفصل‌ها بر اساس ساختار پروژه، دفتر کل، ترازنامه، صورت سود و زیان، دفتر کل هزینه‌های پروژه، ساختار کد گذاری هزینه‌های پروژه، دفتر کل هزینه‌های ماشین‌آلات، سیستم کدگذاری هزینه‌های ماشین‌آلات، ساختارهای کدگذاری بین المللی مانند ICMS، ارتباط ساختارها با MasterFormat و UniFormat و ... به همراه نمونه‌های کاربردی
- حسابداری عملیات مالی پروژه: بررسی انواع تراکنش‌های مالی پروژه و ارتباط آن با ترازنامه، صورت سود و زیان، دفتر کل هزینه‌های پروژه و دفتر کل ماشین‌آلات در زمینه‌های مختلف خرید، تدارکات، وام، پرداخت صورت وضعیت، بالاسری‌های پروژه، بالاسری‌های سازمان، مالیات، انبار، ماشین‌آلات و ... به همراه نمونه‌های کاملاً کاربردی

- مسائل تکمیلی حسابداری پروژه: محاسبه انواع هزینه‌های Committed و Non-Committed، نحوه محاسبه Overbillings و Underbillings، ارتباط تمامی این موارد با مدیریت ارزش کسب شده (EVM)، ارتباط تمامی این موارد با ساختار حسابداری و مالیاتی پروژه، نحوه کنترل سیستم‌های حسابداری پروژه، سیستم‌های نرم‌افزاری حسابداری پروژه و ... به همراه نمونه‌های کاملاً کاربردی
 - محاسبه استهلاک و مالیات در پروژه: معرفی انواع روشهای مختلف استهلاک به همراه مقایسه آنها و حل مثالهای کاربردی با بررسی اهمیت و ارتباط روش‌ها با مبانی سود و زیان سازمان‌های پروژه‌محور و ... به همراه نمونه‌های کاملاً کاربردی
- ### ۳. مدیریت هزینه پروژه

- برآورد هزینه و قیمت پروژه: ارائه ساختار فرآیندی جامع برای برآورد هزینه پروژه از مرحله قبل از طراحی تا مرحله پس از ساخت، برآورد انواع هزینه‌های ماشین‌آلات، نیروی انسانی، مصالح، پیمانکار جزء، بالاسری سازمان، بالاسری پروژه، معرفی انواع روش‌های برآورد هزینه و ارتباط آن سیستم کدگذاری هزینه به همراه بررسی تفاوت این ساختارها برای انواع مدل‌های پرداختی با بررسی فرم‌های Recap Sheet و Summary Sheet و ... با بررسی انواع نمونه‌های اجرایی به همراه نمونه‌های کاملاً کاربردی

- تعیین درصد بالاسری و سود برای مناقصه: بررسی روش نقطه سر به سر برای برآورد CM Ratio و حجم کار مورد نیاز به همراه بررسی نکات کاربردی برای کاهش و مدیریت درصد بالاسری و سود و ... به همراه نمونه‌های کاملاً کاربردی

- مدیریت هزینه پروژه: مدیریت هزینه در بخش‌های مختلف مصالح، نیروی انسانی، ماشین‌آلات، پیمانکار جزء، بالاسری پروژه، بالاسری سازمان، ذخیره‌های احتیاطی، ارتباط هزینه‌ها با Committed و Non-committed، ارائه ساختار و فرآیند جامع مدیریت ارزش کسب شده (EVM)، ارتباط ساختار EVM با هزینه‌های Committed و Non-committed و سیستم کدگذاری ارائه شده، نحوه اصلاح EVM در طول پروژه و ... به همراه نمونه‌های کاملاً کاربردی

۴. مدیریت مالی پروژه

- آنالیز مراکز سود پروژه‌ها در سازمان پروژه‌محور: آنالیز تمامی مراکز سود پروژه و ارتباط آن با بخش‌های برآورد هزینه و مدیریت هزینه برای یافتن میزان سود در هر کدام از مراکز و ... به همراه نمونه‌های کاملاً کاربردی
- آنالیز گزارشات مالی در سازمان پروژه‌محور: تجزیه و تحلیل انواع صورت‌های مالی منطبق بر ساختار سازمان‌های پروژه‌محور و ... به همراه نمونه‌های کاملاً کاربردی
- پیش‌بینی شبکه جریان‌های نقدینگی پروژه: آموزش مدل‌سازی کامل شبکه جریان نقدینگی پروژه از ابتدا تا انتها و ... به همراه نمونه‌های کاملاً کاربردی
- پیش‌بینی شبکه جریان‌های نقدینگی سازمان پروژه‌محور: آموزش مدل‌سازی کامل شبکه جریان نقدینگی سازمان پروژه محور با در نظر گرفتن چندین پروژه و انواع ساختارهای مختلف سازمانی و ... به همراه نمونه‌های کاملاً کاربردی

Road map

مهارت های سخت (Hard Skills) - سطح ارشد استراتژی					
سطح ۵	سطح ۴	سطح ۳	سطح ۲	سطح ۱	دپارتمان
		منشور اخلاق در مدیریت پروژه			مدیریت پروژه
			استراتژی مدیریت هزینه و مهندسی ارزش		مدیریت مالی و هزینه
			استراتژی مدیریت برنامه ریزی و زمان بندی		مدیریت برنامه ریزی و زمان بندی
	استراتژی مدیریت کیفیت				مدیریت کیفیت
		استراتژی مدیریت قرارداد		اصول مدیریت ساخت	مدیریت قرارداد
	استراتژی مدیریت ایمنی				مدیریت ایمنی
استراتژی مدیریت طرح و برنامه					مدیریت طرح و برنامه
	استراتژی مدیریت پایداری				مدیریت پایداری
		استراتژی مدیریت ریسک			مدیریت ریسک
		استراتژی مدیریت اطلاعات			مدیریت اطلاعات
استراتژی مدیریت BIM					مدلسازی اطلاعات ساختمان (BIM)

What we will learn?

1. Life Cycle Analysis and Life Cycle Cost

- ☐ Concept
- ☐ Structure of life cycle analysis (LCA) in projects
- ☐ Asset life cycle cost structure (Life cycle cost (LCC)
- ☐ Comprehensive analysis

2. International Construction Measurement Standards (ICMS)

- ☐ Concept
- ☐ ICMS framework and coding system
- ☐ Process of using ICMS
- ☐ Cost data using ICMS
- ☐ Final recommendation

What we will learn?

3. Cost Estimating and Budgeting

- ☐ Concept
- ☐ AACE cost estimate classes
- ☐ Suggested methodologies per class for pre-design conceptual budgeting
- ☐ Data required for pre-design conceptual budgeting

References Used in This Course

Primary references

- ❑ “Construction Accounting and Financial Management” written by Peterson, **Pearson, 2018**.
- ❑ “GAO Cost Estimating and Assessment Guide”, **United States Accountability Office, 2020 (Updated)**.
- ❑ “RsMeans Cost Data”, **RsMeans, 2012**.
- ❑ “Construction Cost Management: Learning from case studies” written by Keith Potts, **Taylor & Francis, 2008**.
- ❑ “International Cost Management Standard”, **ICMS Coalition, 2021 (Updated)**.

Other references

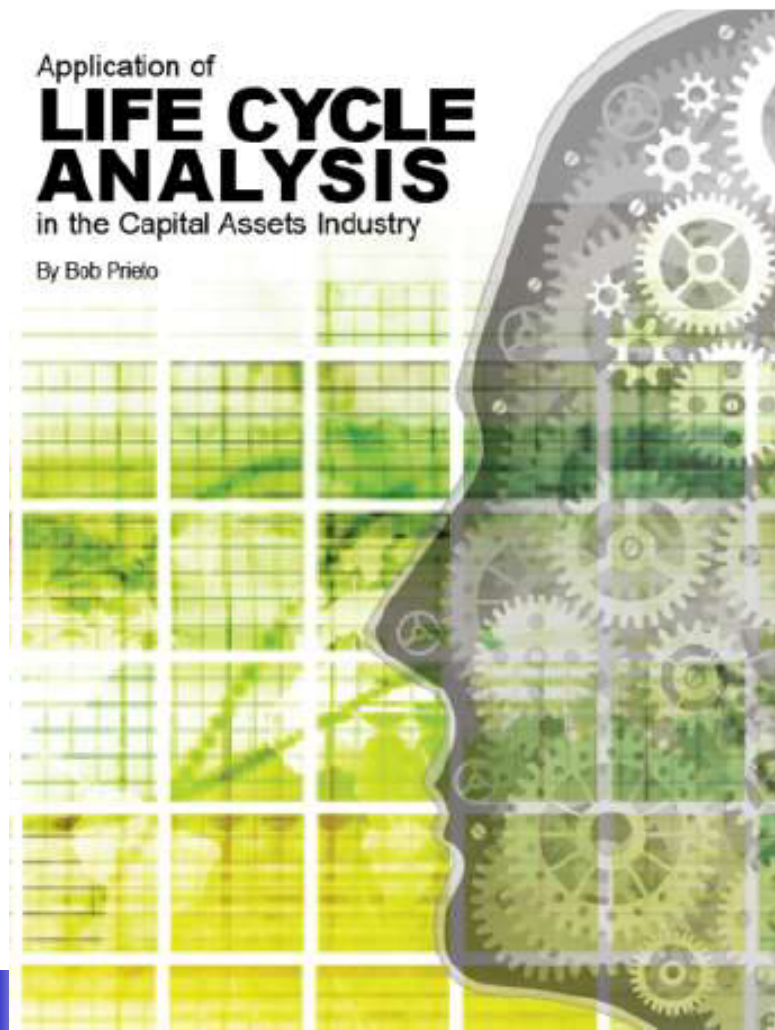
- ❑ “Financial Management and Accounting Fundamentals for Construction” written by Halpin and Senior, **Wiley, 2009.**
- ❑ “MasterFormat 2006 Edition: Numbers and Titles”, **Construction Specifications Institute, 2016.**
- ❑ “UniFormat 2020 Edition”, **Construction Specifications Institute, 2010.**
- ❑ “PMBOK Construction Extension”, **PMI, 2016.**
- ❑ Many other references during the course!

Updated references in 1401

- ❑ **Cost Accounting and Financial Management for Construction Project Managers**, written by Len Holm, **Routledge, 2019**.
- ❑ **Project control for engineering (P 6-1)**, **Construction Industry Institute (CII), 1986**
- ❑ **Project control for construction (RS 6-5)**, **Construction Industry Institute (CII), 2012**
- ❑ **CPM Scheduling for Construction (Best Practices and Guidelines)** published by **Carson et al., PMI** in 2014.

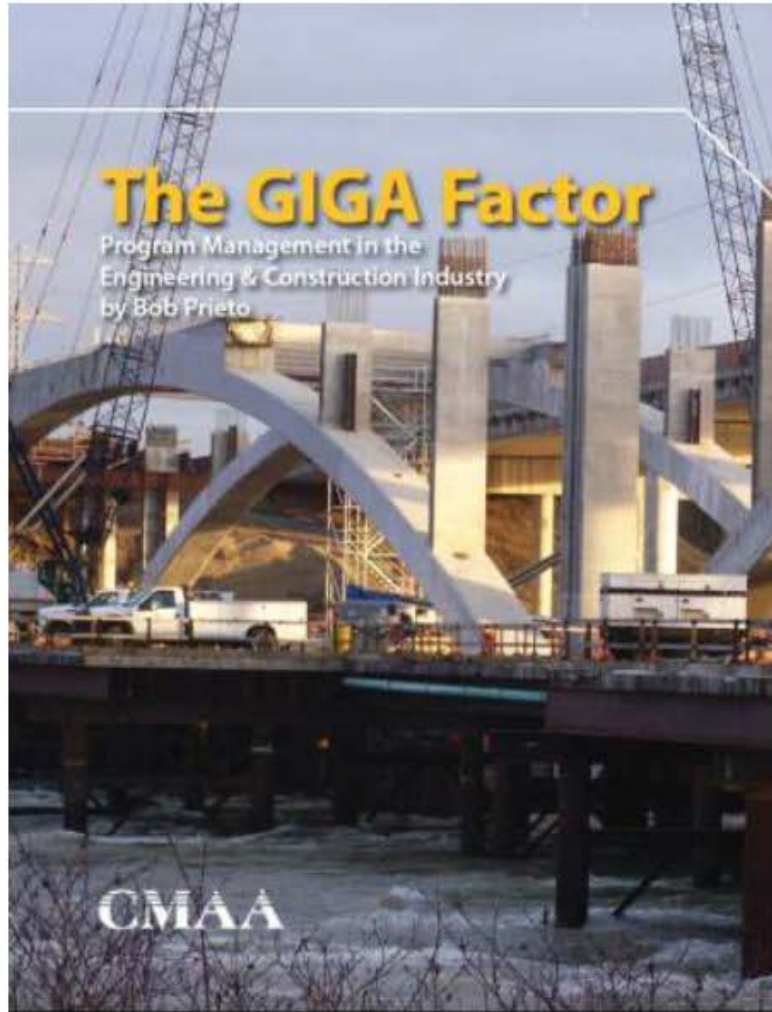
References Used in Advanced Course

Primary References of life cycle analysis and life cycle costing



- ◆ Title - Application of Life Cycle Analysis in the Capital Assets Industry
- ◆ Publisher - Construction Management Association of America (CMAA)
- ◆ Date - June 2013
- ◆ ISBN 978-1-938014-06-2 (eBook)
- ◆ ISBN 978-1-938014-07-9 (Print)

Primary References of life cycle analysis and life cycle costing



Primary References of international construction measurement standards

- ☐ ICMS Standards – 1st Edition
- ☐ ICMS Standards – 2nd Edition
- ☐ ICMS Explained – A user guide for the international construction measurement standards
- ☐ ICMS – Excel sheets – Final draft

Primary References of cost estimating and budgeting

- ☐ CMAA Cost Management Guideline
- ☐ AACE International Recommended Practice 18R-97
- ☐ AACE International Recommended Practice 56R-08
- ☐ ARCADIS Guideline for cost estimating and budgeting

اعتبار تا ساعت ۱۲ سه شنبه ۳ خرداد

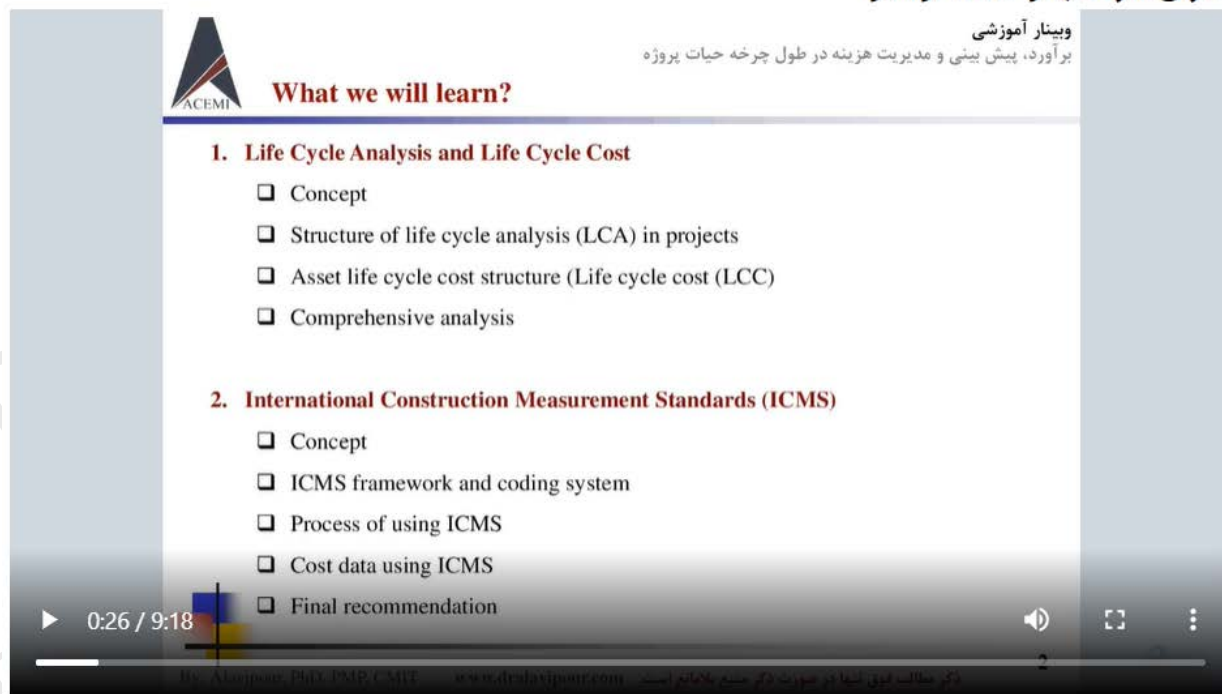
Discount code:

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❑ You can find this course on ACEMI Webiste:

<https://dralavipour.com/video-course/web12>

برآورد، پیش بینی و مدیریت هزینه در طول چرخه حیات پروژه معرفی سرفصلها و خلاصه ویدیو



وبینار آموزشی
برآورد، پیش بینی و مدیریت هزینه در طول چرخه حیات پروژه

What we will learn?

- 1. Life Cycle Analysis and Life Cycle Cost**
 - ❑ Concept
 - ❑ Structure of life cycle analysis (LCA) in projects
 - ❑ Asset life cycle cost structure (Life cycle cost (LCC)
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مدیریت مالی، حسابداری و هزینه در پروژه ها و سازمان های پروژه محور

بخش دوم:

مقدمه: ملاحظات کلی در مدیریت مالی و حسابداری پروژه

ارائه دهنده:

سید محمدرضا علوی پور

(PhD, PMP, CMIT)

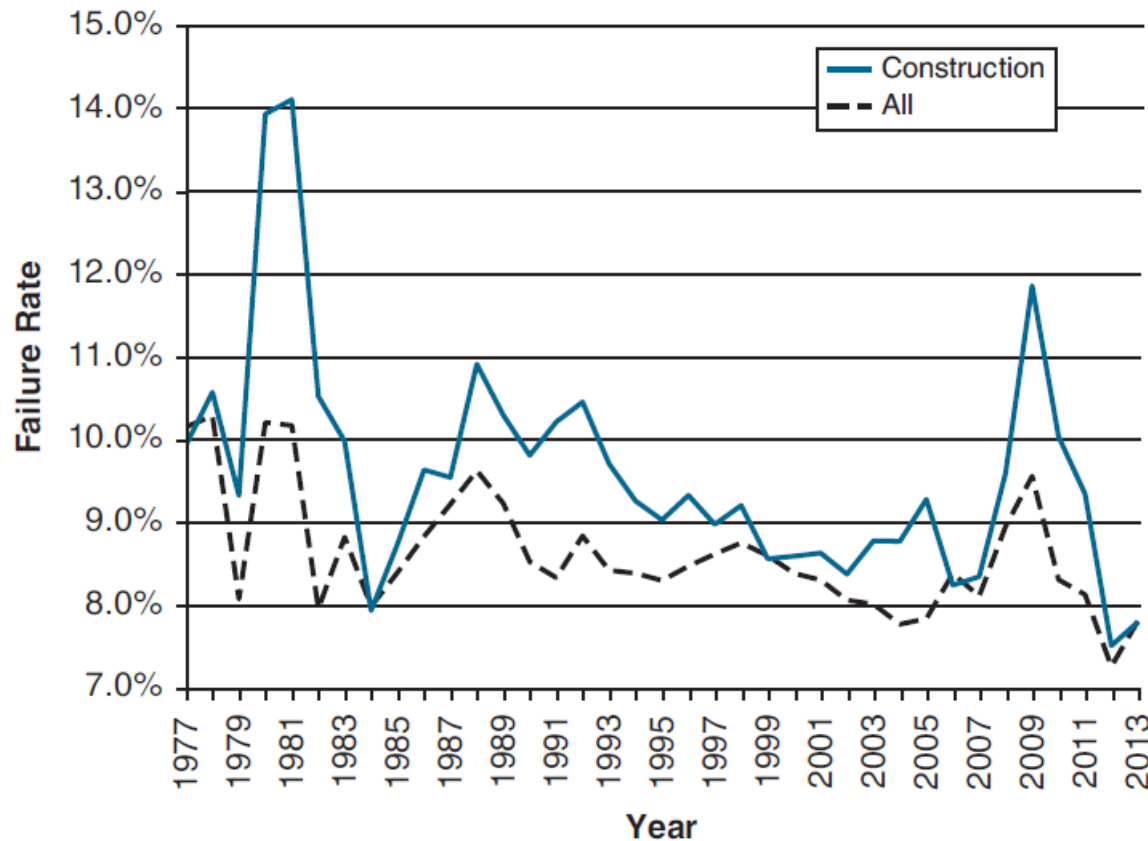
What you will learn?

- ☐ Failures of construction companies
- ☐ Why do construction companies fail?
- ☐ What is financial management?
- ☐ Why is project financial management different?
- ☐ Who is responsible for project financial management?
- ☐ What does a financial manager do?
 - ❖ Accounting for financial resources
 - ❖ Managing costs and profits
 - ❖ Managing cash flows
 - ❖ Choosing among financial alternatives

- ☐ Roadmap

Failures of construction companies

❑ In the United States



Business Failure Rates by Year

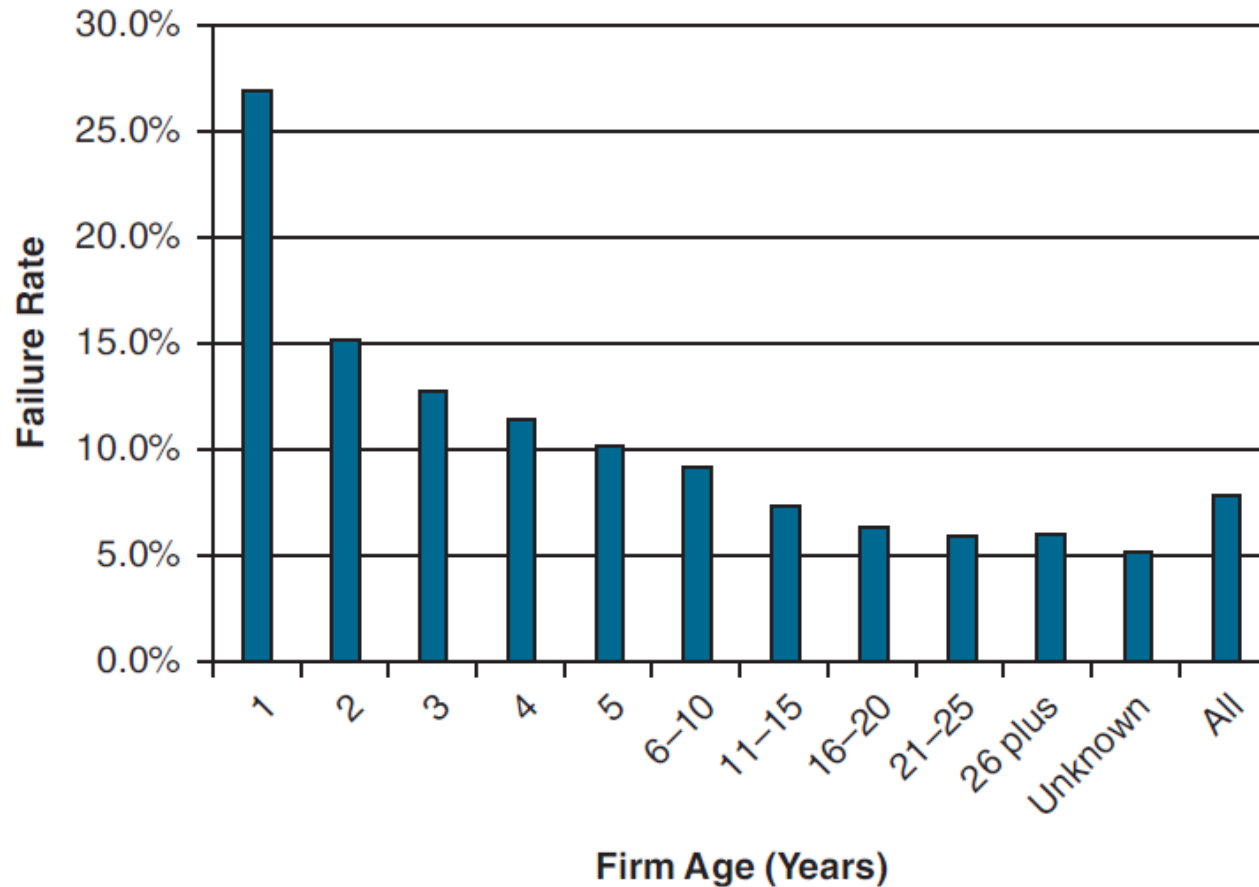
Failures of construction companies

- ❑ 27,536 construction companies, all of which were **started in 1998**, over 70% of them had **gone out of business** seven years later (Knaup et al. 2007).
- ❑ Since 1988 the **construction industry** has experienced a **higher than average** business failure rate **compared** to the **failure rate of all businesses** (Strischek 2005).



Failures of construction companies

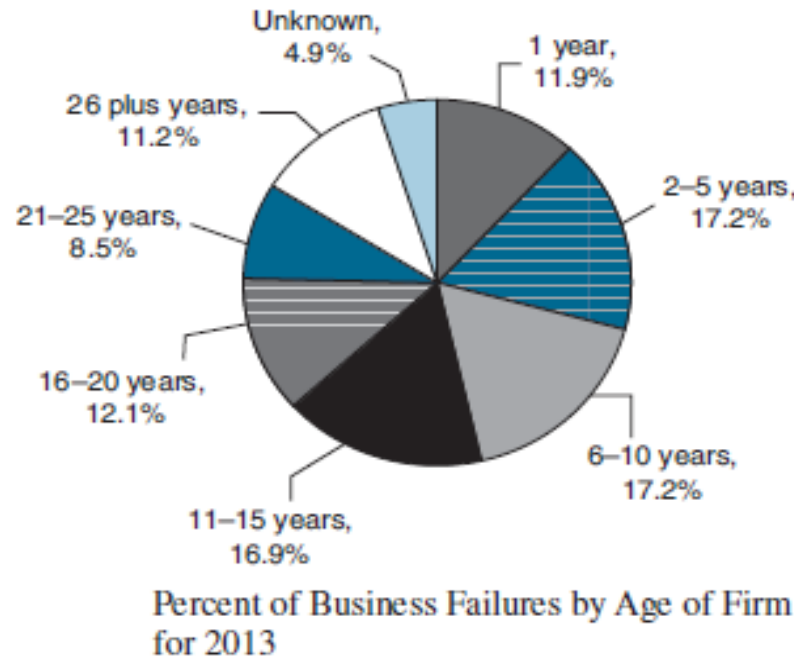
❑ In the United States



Business Failure Rate by Age of Firm for 2013

Failures of construction companies

- ❑ **In 2002**, two of **Japan's largest construction companies** and **Germany's second largest construction company** filed for **bankruptcy** (The Associated Press 2002).
- ❑ Large and small, old and new, domestic and foreign construction companies are among the statistics of failed construction companies (Peterson 2013).



Why do construction companies fail?

□ According to Russell 1991 and Arditi et al. 2000:

- ❖ Over 60% of contractor failures have financial causes
 - ✓ Ineffective **financial management systems**
 - ✓ Credit is **not borrowed** based on the **cash flow forecast** (unrealistic financing)
 - ✓ **Poor estimating** and/or **job cost reporting**
- ❖ Macroeconomic factors and natural disaster (**around 25%**)
- ❖ Poor project and organizational management (**around 8%**)
- ❖ Business issues and conflicts (**around 4%**)
- ❖ Market condition (**around 3%**)

Why do construction companies fail?

❑ According to Surety Information Office:

- ❖ Ineffective **financial management systems**
- ❖ Bank **lines of credit** constantly **borrowed** to the **limits**
- ❖ **Poor estimating** and/or **job cost reporting**
- ❖ **Poor project management**
- ❖ **No** comprehensive **business plan**
- ❖ **Communication** problems

Why do construction companies fail in Iran?

According to **The Office for Supervision and Evaluation of Designs (Iranian government reports)** prepared in 2006 :

- ❑ **68.1%** of projects experienced **delay**
- ❑ **Average delay: 75.6%** compared to **initial estimation** caused by:
 - ❖ Financial sources (**45.8%**)
 - ❖ Execution systems (**13.8%**)
 - ❖ Contractors (**7.6%**)
 - ❖ Other factors (**16.4%**)
- ❑ **Final costs** of projects:
 - ❖ In 2000, **70.3% higher** than initial estimations
 - ❖ In 2001, **60% higher** than initial estimations
 - ❖ In 2002, **67.6% higher** than initial estimations

Causes of delays in Iranian construction projects according to Khoshgoftar et al. (2010):

1. **Financial problems**
2. **Improper planning**
3. **Site management**
4. **Contract problems**
5. **Communication problems**
6. **Subcontractor**
7. **Plant and equipment**
8. **Material**
9. **Inadequate contractor experience**
10. **Change order**

Why do construction companies fail?

□ According to **Peterson 2013**, the **primary source** of failure is **poor financial management**, including:

- ❖ Improper **accounting procedures** and **systems**
- ❖ **Failure** to manage the **company's cash flow**
- ❖ **Failure** to accurately **track** and **manage project (job)** and **equipment costs**
- ❖ **Excessive overhead**
- ❖ **Failure** to **plan** for and **achieve** an acceptable **profit margin**
- ❖ Excessive **debt**
- ❖ **Failure** to make **business decision** based on **sound financial data**.

What is financial management?

- ❑ **Financial management** is the use of a company`s financial resources
- ❑ **Financial resources** include:
 - ❖ Cash
 - ❖ Assets
 - ✓ **Tangible** (دارایی مشهود)
 - Such as buildings, vehicles, equipment, etc.
 - ✓ **Intangible** (دارایی نامشهود)
 - Such as business reputation, company know-how, industry knowledge and name recognition.

What is financial management?

❑ Tangible

- ❖ **Often** listed under on the **Balance Sheet**, and are relatively **easy** to **account**
- ❖ These assets are often further **subdivided** into **two classes**:
 - ✓ **Fixed assets** (دارایی ثابت)
 - Include **buildings, machinery, vehicles**, etc. which are **used** in the process of **doing business** and **depreciated over time**.
 - **Exception**: **land** is **fixed asset** but **not depreciated** over time.
 - Some are **crucial** to **operations** and **cannot** be **disposed** in **time of need**
 - Some can be **disposed** such as **surplus** or **redundant equipment** or **little-used properties** held in your portfolio
 - These are **high liquidity** assets and can be **converted** to **cash** more **easily**

What is financial management?

❑ **Tangible** such as buildings, vehicles, equipment, etc.

❖ **Current assets** (دارایی جاری)

- ✓ Include your **on-hand inventory** and **your accounts receivable**
- ✓ **Contribute directly** to your **company's valuation**
- ✓ **Expected** to be **sold**, **consume** or **convert** over a **short period** of **one year**.
- ✓ **Example:** banks, cash, account receivable, notes receivable, etc.

What is financial management?

❑ Intangible

- ❖ Such as **business reputation, company know-how, industry knowledge, name recognition**, etc.
- ❖ **Not listed** on the **balance sheet**, **nor** are they considered **liquid assets**, **but** their **intrinsic value adds** to the **credibility** of the business, which **can equate** to a **higher business valuation**.
- ❖ The **switch** from **manufacturing** to **technology** as a major driver of the economy has **put intangible** assets squarely in the **spotlight**.
- ❖ A startup with a **hot mobile app** might have very **limited tangible assets**, **but** its **intangible assets** can make it **very valuable** indeed.

Why is project financial management different?

❑ Project oriented

- ❖ **Greater variety of projects (products)**
- ❖ **Harder to determine the cost of projects**
 - ✓ **Construction companies** often give clients **fixed prices** for a product that the company **has never built** or for a product that the company **has never built** using the **local group** of suppliers and subcontractors available at the project location.
- ❖ **Cannot stockpile completed work for future use**
- ❖ **Greater need for detailed job cost accounting**
 - ✓ **Each project + Component of the project**
 - To **control the costs** + **Historical data**

Why is project financial management different?

❑ Decentralized

❖ Must track equipment and employees

- ❖ Construction company **performs** its work at a **number of decentralized locations**.
- ❖ **Equipment** and **employees** are seldom dedicated to a **single project** year after year.
- ❖ **Equipment** and **employees** may **move** from job to job on a **regular basis**.
- ❖ As a result, the location of each **employee** and **piece of equipment** must be **tracked** to ensure that their **costs** are **charged** to the **correct job**.
- ❖ Additionally, **each crew** and **piece of equipment** must be managed as a profit center.

Why is project financial management different?

☐ Payment terms

- ❖ Progress payments
- ❖ Retainage
- ❖ Delay in payments

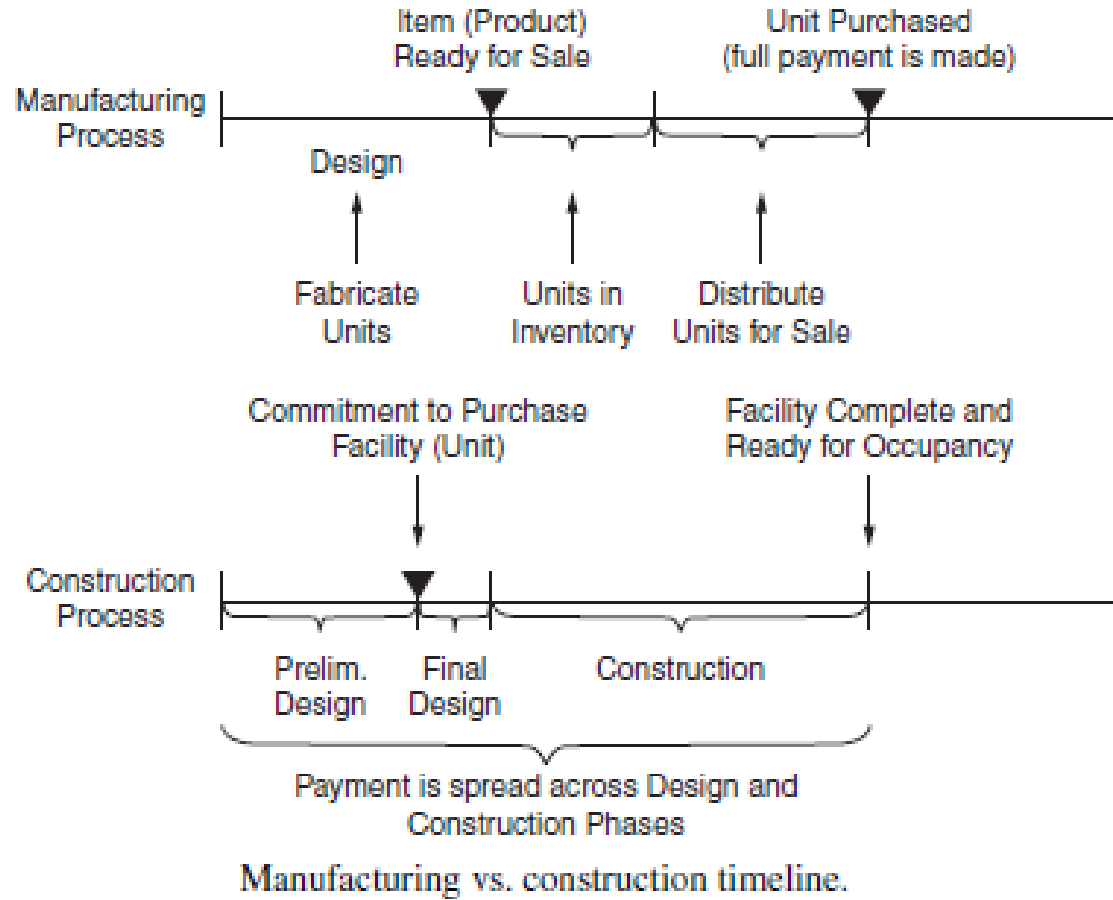
☐ The **manufacturers** are **constantly shipping** materials and **billing** for them, which creates a relatively uniform cash flow cycle throughout the **month**.

☐ For many **construction companies**, all of their projects are on a **billing cycle**, which creates **problem** in the **cash needed** for the projects.

☐ As a result, **construction companies** have **unusual cash flows** and require **modification to accounting** and **other financial procedures** to handle retention and the timing of cash flows.

Why is project financial management different?

□ Payment terms



Why is project financial management different?

☐ Heavy use of subcontractors

☐ The use of **subcontractors** allows a **construction company** to tap into a **subcontractor's financial assets** during the **construction process**.

☐ The use of **subcontractors** has a **great impact** on the **finances** of a **construction company**.



Why is project financial management different?

Conclusion:

The **tools** that **financial managers** are **taught** in **business schools** must be modified to take into account the unique characteristics of the project, if

they are to be useful to project managers.

Who is responsible for project financial management?

- ☐ Owners
 - ❖ The **person ultimately** responsible for the **financial management** of a construction company is often the **owner** or **general manager**.
- ☐ General managers
- ☐ CFO (Chief Financial Officer)
- ☐ Estimators
- ☐ Project managers
- ☐ Superintendents

Many of the tasks related to **financial management** are **delegated** to **estimators**, **superintendents**, or **project managers**— **particularly those tasks** that are **project specific**.

Who is responsible for project financial management?

Note:

Nothing will put an **employee** on the **fast track** to **success** within a company **faster** than increasing the **company's profitability** through sound **project financial management**.

This is the reason that estimators, superintendents, or project managers should learn these methods and concepts!

In this **course** the term **financial manager** is used to designate **superintendents**, **project managers**, **estimators**, **general managers**, or **owners** who are **responsible** for **all or part** of the **financial management** of a **company** or a **project**.

What does a financial manager do?

In general: The financial manager is responsible for seeing that the company **uses** its financial resources wisely.

A financial manager's responsibilities may be broken down into **four broad areas**:

1. Accounting for financial resources
2. Managing costs and profits
3. Managing cash flows
4. Choosing among financial alternatives

Accounting for financial resources

Financial managers are responsible for accounting or tracking how the company's financial resources are used, including the following:

- ❑ Making sure **costs** are **accurately tracked** through the **accounting system**
- ❑ Ensuring that the **project accounting system** is **functioning properly**
- ❑ Projecting the **costs at completion** for the **individual projects**, including **unbilled committed costs**
- ❑ Determining whether the **individual projects** are **over** or **underestimated**
- ❑ Making sure that the needed **financial statements** have been **prepared**
- ❑ Reviewing the **financial statements**
 - ❖ **Inline** with the **rest** of the **industry**
 - ❖ Identify **potential financial problems** before they become a **crisis**

Managing costs and profits

Financial managers are responsible for **managing** the **company's costs** and **earning** a **profit** for the company's owners. Financial managers **rely heavily** on the **reports** from the **accounting system** in their **management of costs**. Managing the company's costs and profits includes the following duties:

- ❑ Controlling **project costs**
- ❑ Monitoring **project** and **company profitability**
- ❑ Setting **labor burden markups**
- ❑ Developing and tracking **general overhead budgets**
- ❑ Setting the **minimum profit margin** for use in **bidding**
- ❑ Analyzing the **profitability** of **different parts** of the **company** and making the **necessary changes** to **improve profitability**
- ❑ Monitoring the **profitability** of **different customers** and making the **necessary marketing changes** to **improve profitability**

Managing cash flow

Financial managers are responsible for **managing** the **cash flows** for the company. **Many profitable** companies **fail** because they simply **run out of cash** and are **unable** to pay their **bills**. The **duties of a financial manager** include the following:

- ❑ **Matching** the use of **in-house labor** and **subcontractors** to the **cash available** for **use** on a **project**
- ❑ **Ensuring** that the **company** has **sufficient cash** to take on an **additional project**
- ❑ **Preparing** an **income tax projection** for the **company**
- ❑ **Preparing** and **updating** **annual cash flow projections** for the **company**
- ❑ **Arranging** for **financing** to cover the **needs** of the **construction company**

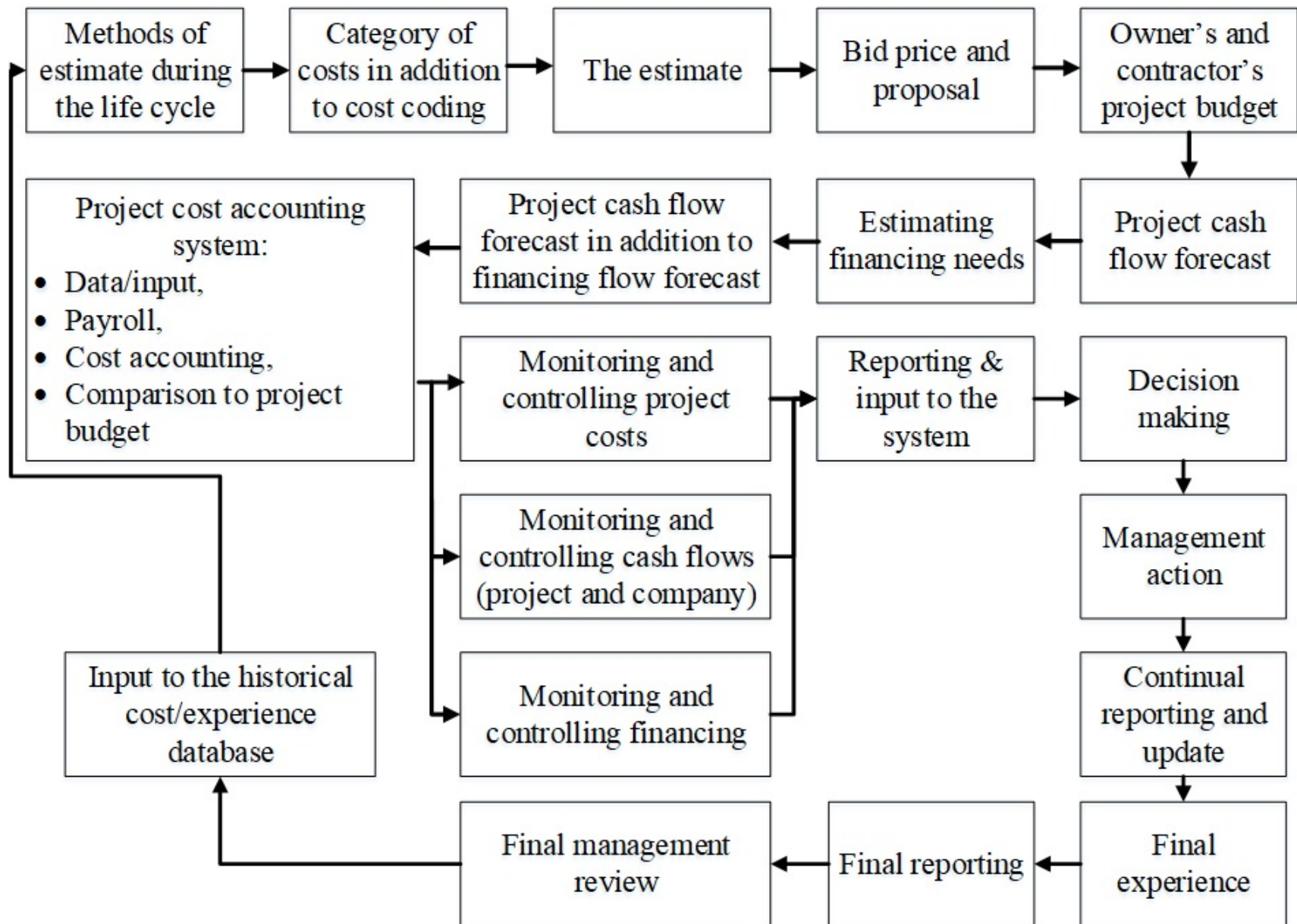


Choosing among financial alternatives

Financial managers are responsible for selecting among financial alternatives. These decisions include the following:

- ☐ Selecting which **equipment purchase**
- ☐ Deciding which **area of the business** to **invest** the **company's limited resources**
- ☐ Selecting which **decision** is **more profitable**

Economic analysis and Financing are designed to be taught in the following courses!





مدیریت مالی، حسابداری و هزینه در پروژه ها و سازمان های پروژه محور

بخش سوم:

مدیریت حسابداری: سیستم حسابداری پروژه

ارائه دهنده:

سید محمدرضا علوی پور

(PhD, PMP, CMIT)

What you will learn?

- ☐ Purposes of the project accounting system
- ☐ Method of accounting
- ☐ Components of an accounting system
- ☐ Balance sheet
- ☐ Income statement
- ☐ General ledger
- ☐ Job cost ledger
- ☐ Equipment ledger
- ☐ Components of a cost control system

Purposes of the project accounting system

1. Process cash receipts and disbursements

- ☐ The **accounting system** should **ensure** that **revenues** are **billed** and **collected** in a **timely fashion**.
- ☐ Failure to collect revenues or careless payment of bills can quickly deplete the **cash reserves** of a company and, **if left unchecked**, can bankrupt a company.

Purposes of the project accounting system

2. Prepare financial statements

- ❑ These reports are needed to **assure shareholders** and **lending institutions** that the company is **solvent** and is **wisely managing** its **financial assets**.

3. Pay income and employment tax

Purposes of the project accounting system

4. Provide data for financial management

- ☐ Data needed to manage the **finances** of the company, including:
 1. Data for the company as a **whole**,
 2. Data for **each project**, and
 3. Data for each piece of **heavy equipment**
- ☐ To successfully manage the company's financial resources, the **accounting system must** provide this **data in time** for **management to analyze** the data and **make corrections** in a **timely manner**.
- ☐ Accounting systems that **fail** to do this are simply **reporting costs**.

Method of accounting

❑ There are **four methods** of accounting available to construction companies:

❖ **Cash** (حسابداری وجوه نقد)

✓ Widely used in many industries

❖ **Accrual** (حسابداری تعهدی)

✓ Widely used in many industries

❖ **Percentage of completion** (حسابداری درصد پیشرفت کار)

✓ When companies enter long-term contracts

❖ **Completed contract** (حسابداری روش کار تکمیل شده)

✓ When companies enter short-term contracts

Method of accounting

- ❑ The cash and accrual methods are **two widely used** accounting methods and are used in **many industries**.
- ❑ The **key difference** between the accounting methods is how and when they **recognize income, expenses, and profits**.
- ❑ A company **may** use a **different method** of accounting when preparing its **financial statements** than it does when it is preparing its **income taxes**.

Let's look at these accounting methods.

Method of accounting – Cash

- ❑ **Revenue** is recognized when **payment** is received
- ❑ **Expenses** are recognized when **bills** are paid
- ❑ **Usually** used for **small businesses** and **personal accounting**
- ❑ **Profit**
 - ❖ Profit at **any point** equals the **cash receipts** less the **cash disbursements**
 - ❖ **How about** those **activities** done but **not received the payment**?

Method of accounting – Cash

❑ Advantage

- ❖ Easiest and often preferred for small companies to use
- ❖ Used to decrease company's tax liability

❑ Disadvantage

- ❖ Little use for financial management because **data** is not up to date
- ❖ Not used for complex accounting

Method of accounting – Accrual

❑ Revenue is recognized **when** the company has the **right to receive payment**

❖ **When** the company **bills** the **project's owners**.

❖ **Retainage** is **not a revenue** **until** the **project is complete**

✓ Because the company does **not** have the **right to receive the retention** until the **end of the project**.

❑ Expenses are recognized **when** the company is **obligated to pay bills**

❖ **When** the company **receives** a **bill** from the **supplier or subcontractors**.

Method of accounting – Accrual

- ❑ More useful for financial management than cash method.
- ❑ May pay **income taxes** on **imaginary profits** especially if the company uses front-end load contracts
 - ❖ Because of **putting more profit** and **overhead markup** at the **beginning**.
- ❑ May pay **income taxes** on revenues **not received**

Method of accounting – Percentage of completion

- ❑ Used when companies enter **long-term contracts**
 - ❖ Contract is **not completed** within the **taxable year**.
- ❑ Many accountants **prefer** this even **over** the **Completed Contract Method**.
- ❑ It paints a **more realistic view** of the company.
 - ❖ It shows revenues year by year **than** to just **all of the sudden** have one **large inflow** at the **end where the project completed**.

Method of accounting – Percentage of completion

❑ The **percentage-of-completion method** requires project-based companies to recognize:

revenues, expenses, and estimated profits on a project **through** the course of the **project** based upon the percent of the project that is **complete**.

❑ **Revenues** recognized when the company **bills** the project's owners.

❖ The **revenue** associated with the retention is recognized, **along with** the revenues from the **bill**, unlike the **accrual method**

❑ **Expenses** are recognized when the company **receives** a bill from the **supplier or subcontractors**.

❑ **Estimated profits** are based upon **expected** revenues and expenses



Method of accounting – Percentage of completion – Example

❑ Revenues, expenses, and the estimated profits are calculated based on the **percentage of the project that is complete**, which is determined by:

❖ **Costs to date** divided by the **total expected costs** for the **project**.

✓ For example, if the project had **incurred 40%** of the **expected costs (% of completion)**,

✓ The company would **recognize 40%** of the **expected revenue**,

✓ **40%** of the **expected costs**, and

✓ **40%** of the **expected profit**.

How about the **scenario** when the company **earn more or less profit?**

WE WILL TALK LATER

Method of accounting – Percentage of completion

- ❑ Larger companies are required to **allocate general overhead** to the individual projects when using the **percentage-of-completion method**.
- ❑ The **percentage-of completion method** provides the **best picture** of the company's financial situation.

Method of accounting – Percentage of completion

□ استاندارد حسابداری شماره ۹ - حسابداری پیمانهای بلندمدت

حسابداری درصد پیشرفت کار

□ شرکت های پیمانکاری را ملزم به شناسایی درآمد پیمانکاری بلند مدت به روش درصد پیشرفت کار (هزینه به هزینه) می کند.

❖ در این روش پیمانکار باید هزینه های کل پروژه را برآورد کرده و بر مبنای آن و متناسب با هزینه های واقعی تحقق یافته درآمد هر دوره مالی را شناسایی کند.

□ نتایج حاصل از محاسبات یادشده همیشه با صورت وضعیت های ارسالی و تایید شده توسط کارفرمایان متفاوت است.

❖ اختلاف موجود بین صورت وضعیت های تایید شده و درآمد شناسایی شده به روش هزینه به هزینه در ترازنامه تحت عنوان مبلغ قابل بازیافت پیمانها و یا مازاد کار گواهی شده درج می شود.

Method of accounting – Percentage of completion

❑ How to estimate?

- ❖ Total cost to date = total cost of this period + cumulative cost of last period
- ❖ Total expected costs for the project = total cost to date + costs of remained work
- ❖ POC = total cost to date / total expected costs for the project
- ❖ Total expected revenue for the project = updated contract price
- ❖ Total estimated revenue to date = POC × total expected revenue for the project

Estimated Gross Profit to date = total estimated revenue to date – total cost to date

- ❖ Period Cost = total cost of this period
- ❖ Estimated Period Revenue = total estimated revenue to date – cumulative
estimated revenue of last year

Estimated Gross Period profit = Estimated Period Revenue – Period Cost

Method of accounting – Percentage of completion

□ استاندارد حسابداری شماره ۹ - حسابداری پیمانهای بلندمدت

حسابداری درصد پیشرفت کار

- هزینه انباشته تا کنون = هزینه انباشته تا سال قبل + هزینه امسال
- هزینه برآوردی کل = هزینه انباشته تا کنون + هزینه برآوردی مانده تا تکمیل پیمان
- درصد پیشرفت کار = هزینه انباشته تا کنون تقسیم بر هزینه برآوردی کل
- مجموع درآمد برآوردی پیمان = پیمان + الحاقیه و تعدیل
- درآمد تا این لحظه = مجموع درآمد برآوردی پیمان * درصد پیشرفت کار
- درآمد قابل شناسایی تا این لحظه = درآمد انباشته تا این لحظه - درآمد انباشته تا سال قبل
- سود ناخالص تا این لحظه = درآمد قابل شناسایی تا این لحظه - هزینه انباشته تا کنون

Method of accounting – Percentage of completion

منبع نامعلوم:

نکته قابل تامل به لحاظ مالیاتی است زیرا اگر هزینه ای توسط ممیزان مالیاتی برگشت داده شود (یا غیر قابل قبول شناخته شود) تکلیف درآمد متناظر آن چه می شود.

اگر سازمان امور مالیاتی چنین تاثیری را نادیده انگارد، به میزان هزینه های برگشت شده سود شرکت را افزایش داده است.

در حالی که درآمد واقعی یک پروژه در **انتهای پروژه** مشخص می شود و **درآمدهای شناسایی شده** در طول دوره اجرای پروژه همیشه بر **مبنای برآوردها** انجام می شود و این **برآوردها** به دلایل مختلف از جمله تورم، نوسانات نرخ ارز، هزینه های پیش بینی نشده و... همیشه **دستخوش تغییر بوده**؛

بنابراین بسیار اتفاق می افتد که پروژه ای در **سال های اول کار دارای سود بوده و مالیات آن هم پرداخت شده است**؛ ولی **درنهایت** به دلایل بالا به **زیان منتج شده است**.

بنابراین انتظار می رود **ممیزان مالیاتی** همیشه با **دانش روز مالی آشنایی کافی داشته باشند** تا حقی از مودیان مالیاتی تضییع نشود.

Method of accounting – Percentage of completion

How about the **scenario** when the company **earn more or less profit**?

- ❑ **At the completion of the project**, the company must **look back** over the **life of the project** and **determine** whether **income taxes** were **overpaid** or **underpaid** for **each tax year**.
 - ❖ Based on **actual costs**, we **first** find **actual % of completion** in **each period**, **then** find the **actual revenues** and **taxes**.
- ❑ **In USA:**
 - ❖ For **underpayments** of income taxes the **company** must pay **interest** to the Internal Revenue Service on the amount underpaid, **in addition** to **paying the underpaid taxes**.
 - ❖ For **overpayment**, the **Internal Revenue Service** must pay **interest** to the company on the overpayment, **in addition** to **refunding the overpaid taxes**.

Method of accounting – Percentage of completion - Example

How about the **scenario** when the company earn more or less profit?

☐ **Example:**

- ☐ Actual cost 1st year = \$500, estimated total cost = \$2,500, estimated total revenue = 4,000
- ☐ Actual cost 2nd year = \$600, estimated total cost = \$3,000, estimated total revenue = 4,500
- ☐ Actual cost 3th year = \$2,400, actual total cost = \$3,500, total revenue = 5,000

Method of accounting – Completed contract

- ☐ **Revenue** is recognized at **completion of the project**
- ☐ **Expenses** are recognized at **completion of the project**
- ☐ **Revenues** and **expenses** are **known**

- ☐ **Advantage**
 - ❖ **Taxes** paid based on **actual revenues**.

Useless for financial management

Method of accounting – Completed contract

روش کار تکمیل شده

□ در این روش، **درآمد، هزینه و سود ناخالص پیمان** هنگامی شناسایی می شود که کل پیمان یا بخش عمده ای از آن تکمیل شده و تنها کارهای جزئی آن باقی مانده باشد.

- در این روش،
1. **مخارج** در طول اجرای طرح به حساب **پیمان در دست اجرا** که مشابه کالای در جریان ساخت در سایر موسسات تولیدی است و
 2. **مبلغ کارکرد** صورت وضعیت موقت کارها **حساب صورت وضعیتهای تأیید شده یا همان حساب کار گواهی شده** که مشابه حساب درآمد تحقق نیافته است ثبت می شود.

□ اما شناسایی درآمد، هزینه و سود ناخالص پیمان هنگامی صورت می گیرد که **کار پایان یافته** یا به **مراحل پایانی رسیده باشد**.

□ در تاریخ تهیه صورتهای مالی مانده **حساب پیمان در دست اجرا** و **حساب صورت وضعیتهای تأیید شده** از یکدیگر **کسر** می گردد و **نتیجه در ترازنامه جزو دارایی یا بدهی گزارش می شود**.

Method of accounting – Which method?

- ☐ For **most** General Contractors (GCs) percentage of completion method
- ☐ For **tax purposes**, construction companies **must** use the **percentage of completion** for long-term contracts (more than 2 years), except when:
 1. The percentage of completion **cannot** be **used**
 2. The **contract** is **short in time**
 3. **Costs** cannot be **calculated** in a **good approximate**
 4. **Obligations** and **commitments** of parties are **not clear** in the **contract**

Method of accounting – Which method?

انتخاب روش

طبق استاندارد حسابداری **قراردادهای بلندمدت پیمانکاری**، در صورت احراز **تمام شرایط زیر** روش **درصد پیشرفت کار** را باید بکار گرفت.

- ۱- **برآورد منطقی** از میزان پیشرفت کار و مخارج لازم برای تکمیل پیمان امکان پذیر باشد.
- ۲- **مسئولیت و اختیارات** پیمانکار و کارفرما با صراحت در قرارداد مشخص شده باشد.
- ۳- **طرفین قرارداد** توانایی ایفای تعهداتی را که طبق قرارداد پذیرفته اند داشته باشند.
- ۴- نسبت به وصول مبلغ پیمان **اطمینان کافی** وجود داشته باشد.

Method of accounting – Which method?

انتخاب روش

طبق استاندارد حسابداری روش کار تکمیل شده را باید تنها در موارد زیر بکار گرفت:

۱- حداقل یکی از شرایط یاد شده برای بکارگیری روش درصد پیشرفت کار وجود نداشته باشد.

۲- قرارداد پیمانکاری کوتاه مدت باشد.

۳- مخاطرات ذاتی قرارداد فرا تر از مخاطرات عادی تجاری باشد بطوری که براساس آن امکان برآورد قابل اتکا

وجود نداشته باشد.

Components of an accounting system

❑ The accounting system for many construction companies consists of **three different ledgers**:

1. General ledger (دفتر کل)

✓ **Tracks financial data** for the entire company and is used to prepare the company's **financial statements** and **income taxes**.

2. Job cost ledger (دفتر کل هزینه پروژه)

✓ It is used to **track** the **financial data** for each project.

3. Equipment ledger (دفتر کل ماشین آلات)

✓ It is used to **track financial data** for heavy equipment and vehicles.

The general ledger

- ❑ The **general ledger** consists of **all of the accounts** necessary to track the financial data **needed to prepare:**

1. **Balance sheet,**
2. **Income statement,**
3. **Income taxes.**

- ❑ The way **transactions** are handled in the **general ledger** is based on the **accounting method used** by the construction company.

CHART OF ACCOUNTS

110 Cash	730 Repairs and Maintenance
120 Accounts Receivable-Trade	740 Fuel and Lubrication
121 Accounts Receivable-Retention	750 Taxes, Licenses, and Insurance
130 Inventory	798 Equipment Costs Charged to Employees
140 Costs and Profits in Excess of Billings	799 Equipment Costs Charged to Jobs
150 Notes Receivable	
155 Due From Construction Loans	805 Advertising
160 Prepaid Expenses	806 Promotion
199 Other Current Assets	810 Car and Truck Expenses
	811 Computer and Office Furniture
210 Building and Land	812 Repairs and Maintenance
220 Construction Equipment	819 Depreciation
230 Trucks and Autos	820 Employee Wages and Salaries
240 Office Equipment	821 Employee Benefits
250 Less Acc. Depreciation	822 Employee Retirement
260 Capital Leases	823 Employee Recruiting
299 Other Assets	824 Employee Training
	825 Employee Taxes
310 Accounts Payable-Trade	830 Insurance
311 Accounts Payable-Retention	835 Taxes and Licenses
320 Billings in Excess of Costs and Profits	840 Office Supplies
330 Notes Payable	841 Office Purchase
340 Accrued Payroll	842 Office Rent
341 Accrued Payables	843 Office Utilities
342 Accrued Taxes	844 Postage and Delivery
343 Accrued Insurance	845 Janitorial and Cleaning
344 Accrued Vacation	846 Telephone
350 Capital Leases Payable	850 Charitable Contributions
360 Warranty Reserves	855 Dues and Memberships
379 Other Current Liabilities	860 Publications and Subscriptions
380 Long-Term Liabilities	865 Legal and Professional Services
	870 Meals and Entertainment
410 Capital Stock	875 Travel
420 Retained Earnings	880 Bank Fees
430 Current Period Net Income	881 Interest Expense
	885 Bad Debts
500 Revenue	891 Unallocated Labor
	892 Unallocated Materials
610 Materials	893 Warranty Expense
620 Labor	898 Miscellaneous
630 Subcontract	899 Overhead Charged to Jobs
640 Equipment	
650 Other	910 Other Income
	920 Other Expense
710 Rent and Lease Payments	950 Income Tax
720 Depreciation	

The general ledger

- ❑ Accounts **110 through 430** are used for the **balance sheet** and accounts **500 through 950** are used for the **income statement**.
- ❑ Other items such as **profit** that appear on the **balance sheet** and **income statement** are **not included** in the **Chart of Accounts** because they are **calculated** from **accounts** on the **Chart of Accounts**.

CHART OF ACCOUNTS

110 Cash	730 Repairs and Maintenance
120 Accounts Receivable-Trade	740 Fuel and Lubrication
121 Accounts Receivable-Retention	750 Taxes, Licenses, and Insurance
130 Inventory	798 Equipment Costs Charged to Employees
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630 Subcontract	899 Overhead Charged to Jobs
640 Equipment	
650 Other	910 Other Income
	920 Other Expense
710 Rent and Lease Payments	950 Income Tax
720 Depreciation	

The general ledger

- ☐ Accounts **100 to 199**: Current assets
- ☐ Accounts **200 to 299**: Fixed and other assets
- ☐ Accounts **300 to 399**: Liabilities
- ☐ Accounts **400 to 499**: Owner's equity
- ☐ Accounts **500 to 599**: Revenues
- ☐ Accounts **600 to 699**: Project costs
- ☐ Accounts **700 to 799**: Equipment costs
- ☐ Accounts **800 to 899**: General overhead costs
- ☐ Accounts **900 to 999**: Other costs and income

CHART OF ACCOUNTS

110 Cash	730 Repairs and Maintenance
120 Accounts Receivable-Trade	740 Fuel and Lubrication
121 Accounts Receivable-Retention	750 Taxes, Licenses, and Insurance
130 Inventory	798 Equipment Costs Charged to Employees
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General ledger – Components of financial statements

- ☐ The balance sheet (ترازنامه)
- ☐ The income statement (صورت سود و زیان یا صورت درآمد)

Balance sheet

❑ Commonly prepared at the end of each month

❑ Typically includes:

1. Assets

- ❖ Current assets
- ❖ Fixed assets (long-term assets)
- ❖ Other assets

2. Liabilities

3. Owner's equity

BALANCE SHEET

	Current Year	Last Year
ASSETS		
CURRENT ASSETS		
Cash	200,492	144,254
Accounts Receivable-Trade	402,854	308,253
Accounts Receivable-Retention	25,365	21,885
Inventory	0	0
Costs and Profits in Excess of Billings	32,586	15,234
Notes Receivable	12,548	0
Prepaid Expenses	5,621	4,825
Other Current Assets	11,254	7,225
Total Current Assets	690,720	501,676
FIXED AND OTHER ASSETS		
Land	72,000	72,000
Buildings	103,862	103,862
Construction Equipment	95,284	95,284
Trucks and Autos	51,245	31,556
Office Equipment	56,896	42,546
Total Fixed Assets	379,287	345,248
Less Acc. Depreciation	224,512	182,990
Net Fixed Assets	154,775	162,258
Other Assets	178,544	171,256
Total Assets	1,024,039	835,190
LIABILITIES		
Current Liabilities		
Accounts Payable-Trade	325,458	228,585
Accounts Payable-Retention	22,546	18,254
Billings in Excess of Costs and Profits	5,218	11,562
Notes Payable	15,514	45,250
Accrued Payables	15,648	16,658
Accrued Taxes	10,521	8,254
Accrued Vacation	3,564	3,002
Capital Lease Payable	0	0
Warranty Reserves	0	0
Other Current Liabilities	25,438	35,648
Total Current Liabilities	423,907	367,213
Long-Term Liabilities	153,215	99,073
Total Liabilities	577,122	466,286
OWNER'S EQUITY		
Capital Stock	10,000	10,000
Retained Earnings	436,917	358,904
Current Period Net Income	0	0
Total Equity	446,917	368,904
Total Liabilities and Equity	1,024,039	835,190

Balance sheet

❑ Other items on the balance sheet may be calculated from other lines on the balance sheet.

❖ For example, the **Total Current Assets** is the **sum** of

❑ Not all companies will use all the accounts shown in Figure.

❖ For example, the company in the Figure does not use the **inventory account**.

BALANCE SHEET

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Total Liabilities and Equity	1,024,039	835,190

Balance sheet

- ❑ Snapshot of a **company's assets, liabilities,** and the **value of the company to its owner,** often referred to as:

- ❖ **Net worth** (ارزش ویژه یا خالص) or
- ❖ **Owner's equity** (حقوق صاحبان سهام)

- ❑ On the balance sheet, the **relationship** between **these three components** is as follows:

❖ $Assets = Liabilities + Equity$

BALANCE SHEET

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Current Period Net Income	0	0
Total Equity	446,917	368,904
Total Liabilities and Equity	1,024,039	835,190

Balance sheet – Current Assets

- ❑ Current assets are the **most liquid assets**.
- ❑ **Expected** to be **converted to cash**, **exchanged**, or **consumed** within **one year**.
- ❑ **Common current assets** include:
 - ❖ Cash, accounts receivable, inventory, cost and profit in excess of billings, notes receivable, due from construction loans, prepaid expenses, and other assets.

Let's look at what would be included in each of these categories.

	Current Year	Last Year
ASSETS		
CURRENT ASSETS		
Cash	200,492	144,254
Accounts Receivable-Trade	402,854	308,253
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Inventory	0	0
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Other Current Assets	11,254	7,225
Total Current Assets	690,720	501,676

Balance sheet – Current Assets

❑ Cash (وجه نقد)

- ❖ Demand deposits (checking and saving accounts) (کوتاه مدت)
- ❖ Time deposits (such as certificates of deposits) (سپرده)
- ❖ Petty cash (تتخواه گردان)

	Current Year	Last Year
ASSETS		
CURRENT ASSETS		
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Accounts Receivable-Retention	25,365	21,885
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Other Current Assets	11,254	7,225
Total Current Assets	690,720	501,676

Balance sheet – Current Assets

❑ Accounts receivable are invoices owed to the company that will likely be paid within one year and have not been formalized by a written promise to pay, such as a note receivable.

❑ Accounts Receivable (حسابهای دریافتی)

- ❖ Accounts Receivable – Trade
- ❖ Accounts Receivable – Retainage

	Current Year	Last Year
ASSETS		
CURRENT ASSETS		
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Balance sheet – Current Assets

❑ Inventory includes **materials** that are:

1. Available for **sale**
2. Expected to be **incorporated** into a construction project **within the next year**

Many construction companies have little or no inventory.

Subcontractors are the most likely group of contractors to carry inventory.

	Current Year	Last Year
ASSETS		
CURRENT ASSETS		
Cash	200,492	144,254
Accounts Receivable-Trade	402,854	308,253
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Balance sheet – Current Assets

❑ Costs and Profits in Excess of Billings (Underbillings) (مبلغ قابل بازیافت پیمانها)

- ❖ Occur when the company **bills less** than the **costs incurred + the estimated profits**
- ❖ If the **billings** are in **excess of the costs and estimated profits**, the difference is recorded as a **liability** under the **billings in excess of costs and profits category**.
- ❖ Not included for **cash** or **accrual** accounting method
- ❖ Item replaced by **Cost in Excess of Billings** for **completed contract accounting method**.

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ASSETS		
CURRENT ASSETS		
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Inventory	0	0
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Prepaid Expenses	5,621	4,825
Other Current Assets	11,254	7,225
Total Current Assets	690,720	501,676

Balance sheet – Current Assets

❑ Notes Receivable (اسناد دریافتی)

- ❖ All invoices **due** to the company that will **likely to be paid** within one year and have been **formalized** by a written promise to pay.
- ❖ **Short-term loans**, or **advances to employees** due to the company that will likely be paid with a year and hold a written promissory
- ❖ For example, if a **company lends** one of its suppliers \$10,000 and the **supplier** signs a **written promise** to repay the amount within one year...

❖ **Notes Receivable** for the **company**.

❖ **Notes Payable** in liability for **suppliers**

	Current Year	Last Year
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Total Current Assets	690,720	501,676

Balance sheet – Current Assets

❑ Due from Construction Loans

❖ It is **money** that is **available** from **construction loans**

= *amount of the loan - amount that has been withdrawn from the loan*

	Current Year	Last Year
ASSETS		
CURRENT ASSETS		
Cash	200,492	144,254
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Accounts Receivable-Retention	25,365	21,885
Inventory	0	0
Costs and Profits in Excess of Billings	32,586	15,234
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Total Current Assets	690,720	501,676

Balance sheet – Current Assets

❑ Prepaid Expenses (هزینه های علی الحساب)

❖ These are **payments** that have been **made for future supplies and services**.

❖ **Examples** of prepaid expenses include:

- ✓ Prepaid taxes,
- ✓ Insurance premiums,
- ✓ Rent,
- ✓ Deposits
- ✓ Etc.

	Current Year	Last Year
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CURRENT ASSETS		
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Other Current Assets	11,254	7,225
Total Current Assets	690,720	501,676

Balance sheet – Current Assets

❑ Other Current Assets

❖ Other current assets **not recorded elsewhere**

	Current Year	Last Year
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CURRENT ASSETS		
Cash	200,492	144,254
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Inventory	0	0
Costs and Profits in Excess of Billings	32,586	15,234
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Prepaid Expenses	5,621	4,825
Other Current Assets	11,254	7,225
Total Current Assets	690,720	501,676

Balance sheet – Current Assets

➤ **Total Current Assets (sum of all current assets mentioned)**

	Current Year	Last Year
ASSETS		
CURRENT ASSETS		
Cash	200,492	144,254
Accounts Receivable-Trade	402,854	308,253
Accounts Receivable-Retention	25,365	21,885
Inventory	0	0
Costs and Profits in Excess of Billings	32,586	15,234
Notes Receivable	12,548	0
Prepaid Expenses	5,621	4,825
Other Current Assets	11,254	7,225
Total Current Assets	690,720	501,676

Balance sheet – Fixed and Other Assets

- ❑ **Fixed and Other Assets** include assets with an **expected useful life** of **more than one year** at the **time of their purchase**.
- ❑ Fixed assets are **recorded** on the **balance sheet** at their **purchase price** and, with the **exception of land**, are **depreciated** for financial purposes.
- ❑ Fixed and other assets include:
 - ❖ Fixed Assets (دارایی ثابت)
 - ❖ Accumulated Depreciation (استهلاک انباشته)
 - ❖ Net Fixed Assets (دارایی ثابت خالص)
 - ❖ Other Assets

FIXED AND OTHER ASSETS

Land	72,000	72,000
Buildings	103,862	103,862
Construction Equipment	95,284	95,284
Trucks and Autos	51,245	31,556
Office Equipment	56,896	42,546
Total Fixed Assets	379,287	345,248
Less Acc. Depreciation	224,512	182,990
Net Fixed Assets	154,775	162,258
Other Assets	178,544	171,256
Total Assets	1,024,039	835,190

Let's look at what would be included in each of these categories

Balance sheet – Fixed and Other Assets

❑ Fixed Assets (دارایی ثابت)

- ❖ Broken down into ...
- ❖ Land and buildings include **all real property** (real estate) **owned** by the **company**.

FIXED AND OTHER ASSETS

Land	72,000	72,000
Buildings	103,862	103,862
Construction Equipment	95,284	95,284
Trucks and Autos	51,245	31,556
Office Equipment	56,896	42,546
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Less Acc. Depreciation	224,512	182,990
Net Fixed Assets	154,775	162,258
Other Assets	178,544	171,256
Total Assets	1,024,039	835,190

- ❖ **Construction equipment** includes **heavy construction equipment**, such as excavators and dump trucks, and other depreciable construction tools, such as compressors.
- ❖ **Trucks and autos** include **pickup trucks** and **automobiles** used by **office** and **field** personnel.
- ❖ **Office equipment** includes all depreciable **office equipment** and **furnishings** such as **desks** and **computers**.

These subcategories are then summed up to get the total fixed assets.

Balance sheet – Fixed and Other Assets

❑ Accumulated Depreciation (استهلاک انباشته) is a Contra Account (حساب انتظامی)

- ❖ The **losses** in **value** to date of the **fixed assets** are **recorded** as **accumulated depreciation**.
- ❖ The **depreciation method** used in **financial statements** **may** be **different** from the **depreciation method** used for **tax purposes**.
- ❖ The **accumulated depreciation account** is a **contra account** because it is **subtracted from another account**.

FIXED AND OTHER ASSETS

Land	72,000	72,000
Buildings	103,862	103,862
Construction Equipment	95,284	95,284
Trucks and Autos	51,245	31,556
Office Equipment	56,896	42,546
Total Fixed Assets	379,287	345,248
Less Acc. Depreciation	224,512	182,990
Net Fixed Assets	154,775	162,258
Other Assets	178,544	171,256
Total Assets	1,024,039	835,190

Balance sheet – Fixed and Other Assets

❑ *Net Fixed Assets = Total Fixed Assets – Accumulated Depreciation*

❖ Also known as the **book values** for all of the fixed assets

❑ **Other Assets**

❖ Assets **not included elsewhere.**

➤ ***Total Assets = Total Current Assets + Net Fixed Assets + Other Assets***

FIXED AND OTHER ASSETS

Land	72,000	72,000
Buildings	103,862	103,862
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The general ledger

- ❑ The **general ledger** consists of **all of the accounts** necessary to track the financial data **needed to prepare:**

1. **Balance sheet,**
2. **Income statement,**
3. **Income taxes.**

- ❑ The way **transactions** are handled in the **general ledger** is based on the **accounting method** **used** by the construction company.

CHART OF ACCOUNTS

110 Cash	730 Repairs and Maintenance
120 Accounts Receivable-Trade	740 Fuel and Lubrication
121 Accounts Receivable-Retention	750 Taxes, Licenses, and Insurance
130 Inventory	798 Equipment Costs Charged to Employees
140 Costs and Profits in Excess of Billings	799 Equipment Costs Charged to Jobs
150 Notes Receivable	
155 Due From Construction Loans	805 Advertising
160 Prepaid Expenses	806 Promotion
199 Other Current Assets	810 Car and Truck Expenses
	811 Computer and Office Furniture
210 Building and Land	812 Repairs and Maintenance
220 Construction Equipment	819 Depreciation
230 Trucks and Autos	820 Employee Wages and Salaries
240 Office Equipment	821 Employee Benefits
250 Less Acc. Depreciation	822 Employee Retirement
260 Capital Leases	823 Employee Recruiting
299 Other Assets	824 Employee Training
	825 Employee Taxes
310 Accounts Payable-Trade	830 Insurance
311 Accounts Payable-Retention	835 Taxes and Licenses
320 Billings in Excess of Costs and Profits	840 Office Supplies
330 Notes Payable	841 Office Purchase
340 Accrued Payroll	842 Office Rent
341 Accrued Payables	843 Office Utilities
342 Accrued Taxes	844 Postage and Delivery
343 Accrued Insurance	845 Janitorial and Cleaning
344 Accrued Vacation	846 Telephone
350 Capital Leases Payable	850 Charitable Contributions
360 Warranty Reserves	855 Dues and Memberships
379 Other Current Liabilities	860 Publications and Subscriptions
380 Long-Term Liabilities	865 Legal and Professional Services
	870 Meals and Entertainment
410 Capital Stock	875 Travel
420 Retained Earnings	880 Bank Fees
430 Current Period Net Income	881 Interest Expense
	885 Bad Debts
500 Revenue	891 Unallocated Labor
	892 Unallocated Materials
610 Materials	893 Warranty Expense
620 Labor	898 Miscellaneous
630 Subcontract	899 Overhead Charged to Jobs
640 Equipment	
650 Other	910 Other Income
	920 Other Expense
710 Rent and Lease Payments	950 Income Tax
720 Depreciation	

Balance sheet – Liabilities

❑ Liabilities (بدهیها)

- ❖ Obligations to transfer assets or services at **future time**
- ❖ Common liabilities: loans and warranty reserves
- ❖ Divided into
 1. Current Liabilities
 2. Long-Term Liabilities

Balance sheet – Liabilities

❑ Current Liabilities (بدهیهای جاری)

- ❖ Expected to be paid within one year
- ❖ Current assets are usually used to pay current liabilities
- ❖ Include:
 - ✓ Accounts payable,
 - ✓ Billings in excess of costs and estimated earnings,
 - ✓ Notes payable,
 - ✓ Accrued payables,
 - ✓ Capital lease payments,
 - ✓ Warranty reserves
 - ✓ Other current liabilities.

LIABILITIES

Current Liabilities

Accounts Payable-Trade	325,458	228,585
Accounts Payable-Retention	22,546	18,254
Billings in Excess of Costs and Profits	5,218	11,562
Notes Payable	15,514	45,250
Accrued Payables	15,648	16,658
Accrued Taxes	10,521	8,254
Accrued Vacation	3,564	3,002
Capital Lease Payable	0	0
Warranty Reserves	0	0
Other Current Liabilities	25,438	35,648
Total Current Liabilities	423,907	367,213
Long-Term Liabilities	153,215	99,073
Total Liabilities	577,122	466,286

Balance sheet – Liabilities

❖ Long-Term Liabilities (بدهیهای بلند مدت)

- ✓ Include **all debts** that are **not expected** to be paid **within one year**.
- ✓ **Common** long-term liabilities include **loans**.

Let's look at what would be included in each of these categories

LIABILITIES

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Balance sheet – Liabilities

□ Accounts Payable (حسابهای پرداختی)

- ❖ Debts that the **company** owes and **expects** to pay **within one year** that are **not evidenced by a written promise to pay**.
- ❖ For **construction companies** the **monthly bills** that they **receive** from their **suppliers** and **subcontractors** constitute accounts payable **until** the **bill** has been paid.

❖ Accounts Payable-Trade

❖ Accounts Payable-Retainage

- ❖ From the **SCs** or **suppliers**

LIABILITIES

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Balance sheet – Liabilities

❑ Billings in Excess of Costs and Profits (Overbillings) (مبلغ مازاد پیمانها)

- ❖ May also be referred to as billings in excess of costs and estimated earnings
- ❖ Occur when the company bills more than the costs incurred + the estimated profits
- ❖ Not included for cash or accrual **accounting method**
- ❖ Billings in Excess of Costs for completed contract accounting method

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Balance sheet – Liabilities

❑ Notes Payable (اسناد پرداختی)

❖ Written promises to pay within one year

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Balance sheet – Liabilities

❑ Accrued Payables (هزینه تحقق یافته اما پرداخت نشده (معوق))

- ❖ Money owed for **supplies** and **services** that have not been billed.
- ❖ They include **accrued taxes, rents, wages, and etc.** that have not been paid.
 - ✓ **For example**, from the time an employee's hours are **entered** into the accounting system until the **payroll check** is prepared, the **wages** due to the employee are **recorded** as an **accrued payable**.

1. Accrued Payables

2. Accrued Taxes

3. Accrued Vacation

LIABILITIES

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Balance sheet – Liabilities

❑ Capital Lease Payable (اجاره سرمایه پرداختی)

- ❖ Capital leases include **all leases** that are **non-cancelable**
- ❖ **Accounting is like when** purchasing the asset and financing it using a loan:
 1. Add the **leasing value** in Capital Lease Payable
 2. Add the **value** in Fixed Asset
 3. Update Acc. Depreciation
 4. Add the **interest** in income statement
 5. Reduce Capital Lease Payable
the amount of **repayments**

LIABILITIES

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Balance sheet – Liabilities

❑ Capital Lease Payable (اجاره سرمایه پرداختی)

- ❖ For example, assume you were **leasing an asset worth \$10,000**
- ❖ **Add \$10,000 as a capital lease liability**
- ❖ **Add \$10,000 as an asset on the balance sheet**
- ❖ If you had a **\$1,000 yearly payment**, and **\$100 was interest**,
 - ❖ **\$900 would go towards reducing the capital lease liability account.**
 - ❖ Over time, this means the **capital lease liability** account would eventually **reach zero**.
 - ❖ **Interest** added in **income statement**
 - ❖ **Depreciate the asset**

Balance sheet – Liabilities

❑ Warranty Reserves ((تضمین) ذخیره دوران تعهد)

- ❖ Funds **set aside** to cover the **foreseeable** cost of **warranty work**
- ❖ The **foreseeable expenses** should be included as a **liability** on the **balance sheet**.
- ❖ **Many homebuilders** should be **able** to **forecast** their **expected warranty costs** based on **past warranty experience**.

LIABILITIES

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Total Liabilities	577,122	466,286

Balance sheet – Liabilities

❑ Other Current Liabilities

❖ Liabilities **not** included elsewhere

- **Total Current Liabilities (sum of all current liabilities)**
- **Total Liabilities (Total Current Liabilities + Long-Term Liabilities)**

LIABILITIES

Current Liabilities		
Accounts Payable-Trade	325,458	228,585
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Balance sheet – Owner's Equity

❑ حقوق صاحبان سهام یا ارزش ویژه (ارزش خالص)

- ❑ Company's **owner** or **shareholders** on the **assets** that **remain** after the **liabilities** are **paid**.
- ❑ May also be referred to as **net worth**.
- ❑ **Recorded differently** on the **balance sheet** for **corporations**, **sole proprietors**, and **partnerships**.

OWNER'S EQUITY

Capital Stock	10,000	10,000
Retained Earnings	436,917	358,904
Current Period Net Income	0	0
Total Equity	446,917	368,904
Total Liabilities and Equity	1,024,039	835,190

Balance sheet – Owner's Equity

❑ For corporations (شرکت سهامی)

❖ Capital Stock (سرمایه سهامی)

- ✓ Represents the **initial investment** in the company by the **shareholders**

❖ Retained Earnings (سود انباشته)

- ✓ Represent **prior accounting period's profits** or **earnings retained** by the corporation to **invest in company operations rather** than be **distributed to the shareholders**.

❖ Current Period Net Income (درآمد خالص دوره جاری)

- ✓ Represents the **profits** or **losses** incurred during the **current accounting period**.

OWNER'S EQUITY

Capital Stock	10,000	10,000
Retained Earnings	436,917	358,904
Current Period Net Income	0	0
Total Equity	446,917	368,904
Total Liabilities and Equity	1,024,039	835,190

*For **partnerships**, the owner's equity is listed for **each partner separately** and is known as **owner's capital**.*

Income Statement

☐ Represents the **transactions**

☐ Includes:

❖ **Revenues**

❖ **Construction Costs**

❖ **Equipment Costs**

❖ **Overhead (General overhead)**

❖ **Other Income and Expense**

❖ **Income Tax**

☐ Like the balance sheet, multiple accounts on the income statement may be **combined** and **unneeded accounts left out**.

BIG W CONSTRUCTION INCOME STATEMENT		
REVENUES	3,698,945	100.0%
CONSTRUCTION COSTS		
Materials	712,564	19.3%
Labor	896,514	24.2%
Subcontract	1,452,352	39.3%
Equipment	119,575	3.2%
Other	5,452	0.1%
Total Construction Costs	3,186,457	86.1%
EQUIPMENT COSTS		
Rent and Lease Payments	35,425	1.0%
Depreciation	32,397	0.9%
Repairs and Maintenance	21,254	0.6%
Fuel and Lubrication	29,245	0.8%
Taxes, Licenses, and Insurance	1,254	0.0%
Equipment Costs Charged to Jobs	119,575	3.2%
Equipment Costs Charged to Employees	0	0.0%
Total Equipment Costs	0	0.0%
GROSS PROFIT	512,488	13.9%
OVERHEAD	422,562	11.4%
NET PROFIT FROM OPERATIONS	89,926	2.4%
OTHER INCOME AND EXPENSE	21,521	0.6%
PROFIT BEFORE TAXES	111,447	3.0%
INCOME TAX	33,434	0.9%
PROFIT AFTER TAXES	78,013	2.1%

موسسه مهندسی و مدیریت ساخت علوی پور (ACEMI)

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