**FINANCIAL AND BUSINESS MANAGEMENT FOR ROAD CONTRACTORS**

**MODULE FOUR SESSION TWO PARTICIPANTS’ NOTES**

**RISK AND RISK MANAGEMENT**

**1.0 The objectives of the session is:**

1. To enable the participants appreciate business risks
2. To explain the risk factors in the road construction business
3. To develop a risk management plan
4. To explain the measures to mitigate the identified risks

**1.1 Introduction**

Many companies now allocate large amounts of money and time in developing [risk management](http://www.investopedia.com/terms/r/riskmanagement.asp) strategies to help manage risks associated with their business and investment dealings. A key component of the risk management process is risk assessment, which involves the determination of the risks surrounding a business or investment.

A fundamental idea in finance is the relationship between risk and return. The greater the amount of risk that an investor (Entrepreneur) is willing to take on, the greater the potential return. The reason for this is that investors need to be compensated for taking on additional risk.

**1.2 Risk identification and recording**Risk is defined as an event that has a probability of occurring, and could have either a positive or negative impact to a project should that risk occur. A risk may have one or more causes and, if it occurs, one or more impacts. For example, a cause may be requiring an environmental permit to do work. The risk event is that the permitting agency may take longer than planned to issue a permit. Another cause is having limited personnel assigned to design the project and the risk event is that the assigned personnel may not be available for the activity. If either of these uncertain events occurs, there may be an impact on the project cost, schedule or performance.

All projects assume some element of risk, and it’s through risk management where tools and techniques are applied to monitor and track those events that have the potential to impact the outcome of a project.

Risk management is an ongoing process that continues through the life of a project. It includes processes for risk management planning, identification, analysis, monitoring and control. Many of these processes are updated throughout the project lifecycle as new risks can be identified at any time. It’s the objective of risk management to decrease the probability and impact of events adverse to the project. On the other hand, any event that could have a positive impact should be exploited.

The identification of risk normally starts before the project is initiated, and the number of risks increase as the project matures through the lifecycle. When a risk is identified, it’s first assessed to ascertain the probability of occurring, the degree of impact to the schedule, scope, cost, and quality, and then prioritized. Risk events may impact only one while others may impact the project in multiple impact categories. The probability of occurrence, number of categories impacted and the degree (high, medium, low) to which they impact the project will be the basis for assigning the risk priority.

All identified risks should be entered into a risk register, and documented as a risk statement. As part of documenting a risk, two other important items need to be addressed. The first is mitigation steps that can be taken to lessen the probability of the event occurring. The second is a contingency plan, or a series of activities that should take place either prior to, or when the event occurs. Mitigation actions frequently have a cost. Sometimes the cost of mitigating the risk can exceed the cost of assuming the risk and incurring the consequences. It is important to evaluate the probability and impact of each risk against the mitigation strategy cost before deciding to implement a contingency plan. Contingency plans implemented prior to the risk occurring are pre-emptive actions intended to reduce the impact or remove the risk in its entirety. Contingency plans implemented after a risk occurs can usually only lessen the impact.

Identifying and documenting events that pose a risk to the outcome of a project is just the first step. It is equally important to monitor all risks on a scheduled basis by a risk management team, and reported on in the project status report.

# 1.3 Types of business risk

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Kyra Sheahan

Kyra Sheahan has been a writer for various publications since 2008. Her work has been featured in "The Desert Leaf" and "Kentucky Doc Magazine," covering health and wellness, environmental conservatism and DIY crafts. Sheahan holds an M.B.A. with an emphasis in finance.

There are many types of risks that permeate the business world. Internal and external barriers and challenges can arise unexpectedly and hinder a company's production, profitability and success. Since risks have the potential to be damaging, companies can protect themselves by identifying immediate threats and developing plans to avoid or minimize those risks.

**Financial Risks:** A company's financial structure is an integral part of its business. Finances allow companies to hire staff, buy equipment, lease buildings and more. Since so many aspects of a business rely on good financial standing, financial risks can be devastating to a company. Debt is one example of a financial risk. When companies accumulate large amounts of debt, investors and stakeholders may feel uncertain about their return on investment (ROI's). This can cause investors and stakeholders to deny a company further investments, thereby creating a negative financial impact on the company. Risks that are associated with gearing were analyzed in module ??session 9.

**Strategic Risks:** When a company decides to implement a new business strategy, such as developing strategic alliances, joint ventures or entering a new market, the outcomes may be uncertain. This level of uncertainty can create risk. The new strategies do not guarantee prosperity, and since there is a chance that the plan could flop, new strategies can be risky.

**Economic Risks:** The economy is a threat to businesses. When the economy rises and falls, so does the resources available to do roads. As such, road construction businesses are vulnerable to the changes in the economy. A thriving economy inspires more government spending. A poor economy, however, may deter government spending for an unforeseen amount of time. This can be risky for road construction businesses, as they depend on UNRA and local governments spending to maintain profitability.

**Competitors:** Competitors are a natural business risk. Biz/Ed explains that companies are not isolated from one another in their market, so competition between companies is inevitable. Competitors are risks because similar businesses compete for the same jobs. When one company makes a change, such as lowering their prices, the other company may be impacted by it. As such, companies benchmark against each other to see how they can beat or cope with their competition.

**Health and Safety Risks:** Depending on the industry, some companies face more immediate health and safety risks in their daily operations than others, such as construction companies and hospitals. Maintaining the welfare of key personnel is an important part of managing a business. By not preventing, or preparing for, health and safety threats, employers risk the potential for accidents, injuries and fatalities in the workplace.

## Transaction Risk: The exchange rate or currency value risk associated with the time delay between entering into a contract and settling it. The greater the time differential between the entrance and settlement of the contract, the greater the transaction risk because there is more time for the currency to devalue or fluctuate. Transaction risk creates difficulties for individuals and corporations dealing in different currencies or in inflationary situations, as exchange rates can fluctuate significantly over a short period of time.

For example, suppose the Uganda construction firm agrees to [buy](http://financial-dictionary.thefreedictionary.com/Buy) materials from a British company and [settle](http://financial-dictionary.thefreedictionary.com/Settle) the transaction in pounds. The Uganda construction firm has the transaction exposure that the pound will [appreciate](http://financial-dictionary.thefreedictionary.com/Appreciate) with respect to the Uganda shillings, causing the company to spend more Uganda shillings to buy the same number of pounds to be able to settle the transaction. In a similar manner, where there is delay to execute a contract suppliers of local materials may increase prices when inflation is high while the contracted amount will remain fixed.

# 1.4 How to identify business risks

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Shanika Chapman

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As a business owner, business risk is inevitable. All the forecasting in the world won't protect your business from every potential pitfall. However, being prepared will help you prevent or mitigate most of them. First, you must identify the risks to your business.

**Take a good look at yourself.** How you approach your business will determine how your business handles potential risks. Be strong willed, yet flexible. Seek out those whose opinions you respect and successful entrepreneurs for advice.

**Conduct a market analysis.** Analyze both successful and unsuccessful businesses that are similar to yours. Doing so will give you an idea of what to avoid and what to implement in your own business. Be honest with yourself. Perform a SWOT (strengths, weaknesses, opportunities and threats) analysis.

**Create a business planning framework.** Theplan should include your goals, obstacles, financial forecasts, advertising methods and management personnel, including the latter's strengths and weaknesses. Create balance sheets and income statements that detail your assets, and liabilities; your revenue and expenditure respectively. Understand all of the costs involved in starting and running your business. Use the framework to identify risks.

**Discuss potential risks with your management team.** Determine the extent to which seasonal issues will affect your business. Determine how you will prevent information technology (IT) - related risks such as computer failures and loss of data. Determine how you will protect human resources information such as payroll and private data. Create a safe working environment.

## Examine insurable risk. Lack of proper insurance boosts the risk to a business. Basic insurance protection from flood, fire and theft is a given. Consider purchasing insurance for other risky events and assets such as vehicles, inventory and other movables. You will need to purchase public liability and worker's compensation insurance to safeguard against accidents. But a business owner should also be thinking ahead about insurable risks specific to her line of work. A lawsuit can stem from an online shopper who catches a computer virus planted on business' website by a hacker.

The policy on insurance should be frequently checked to make sure that it's still relevant to the way a business is being run and that it covers any new components to the business.

**Establish strong relationships with your suppliers and potential lenders**. Demonstrate an ability to pay on time and be consistent. Suppliers that trust you will be much more likely to let you create the terms of your wholesale purchases (reducing the risk of overstocking).

**Have an exit strategy.** Know when to call it quits by deciding early on what factors will determine when it's time to give it up. Also don't be afraid to abandon a service that isn't doing as well as you'd hoped.

* 1. **What are the causes of business risks and uncertainty?**

There are many benefits to having a business. But there are significant risks that accompany operating one. There is a large amount of capital invested in a business and it can take years to start **ear**ning a profit; however one major downfall can derail a business for good.

**Cash Flow:** Running out of operating cash is always a hazard. If a business owner does not keep close tabs of his expenses and accounting, then the money flow will dry up. The same can happen if work contracts dry up. Lack of planning ahead for these contingencies adds to business risk. A business owner should have three to six months of operating expenses tucked away in savings to keep the business afloat in lean times.

## One-Dimensional Thinking: Business owners risk sinking their operation with one-dimensional thinking. Competition is fierce, especially among small businesses, so the business owner should be thinking of creative ways to attract customers. Meeting the bottom line isn't enough. The business owner should grow his business by offering unique products or competitive pricing. He should also be anticipating any risks that could come along and sink the business.

## 1.6 The risk factors in the road construction business

The foregoing analysis ascertains key risks related to clients, designers, contractors, subcontractors, government bodies and external environment. The stakeholders’ role and responsibility on the management of these risks are elaborated below.

**1.6.1 Risks related to clients**

Four key risks are related to clients:

1. “Tight project schedule” is ranked as the most significant risk. The clients should prepare a practical schedule allowing sufficient but not redundant time to accommodate all design and construction activities. As time and cost are always closely correlated, a lengthy schedule will undoubtedly wreck the project cost benefit.
2. “Variations by the client” can directly result in changes in the planning, design and construction. Variations possibly result from two reasons, the change of mind by the client or the misunderstanding/misinterpretation of the clients’ needs in the project brief. For the former cause, the clients will bear the responsibility; for the latter, a knowledgeable initial project team should be established as early as possible to define the project scope and functions precisely since the business will bear it.
3. “Higher performance or quality expectations” is born in most clients’ mind beyond that specified, which however may mean an increase of project cost, time and even safety. Hence, clients should define the performance/quality of the proposed projects based on rational research of their own and/or the market needs.
4. “Incomplete documents and approvals” usually occurs due to management weakness of the project routines or the bureaucracy of government. Clients need to establish a competent team to obtain the approval from government agencies and prepare project documents effectively and efficiently and have them approved in good time.

**1.6.2 Risks related to designers**

Also, four key risks relate to designers.

1. “Design variations” popularly arise in the design phase of a project and may result from issues such as “variations by the client” and defective designs. To avoid defective design, the design team needs not only to fully understand what the clients want as defined in the project brief, but also to establish an efficient communication scheme among the designers, clients and contractors.
2. “Inadequate program scheduling” often appears in projects with a tight schedule when some programs need to be reduced to meet the project timeline. Moreover, uncertainty surrounds most facets of construction projects, which makes it impossible to accurately predict the time required for various programs. Choosing experienced designers can help to minimize the difference between the proposed and practical program schedules.
3. “Incomplete or inaccurate cost estimate” is directly related to the designers/consultants’ knowledge, attitude and experience. As previously mentioned, many unforeseen factors encompass construction activities, which often deviates the estimated cost from the real cost. Choosing responsible and experienced designers and if possible getting the contractors/subcontractors involved early can help to illuminate the black box and minimize the inaccuracy.
4. “Inadequate or inaccurate site information (soil test and survey report)” can affect the progress of excavation, refill and drainage works. Prior to any design scheme, ball pits, soil test and survey with government agencies should be conducted to ascertain the site conditions and reduce unexpected risks.

**1.6.3 Risks related to contractors**

Seven key risks related to contractors.

1. “Unsuitable construction program planning” may result from inadequate program scheduling, innovative design or contractors’ lack of knowledge and skills in planning construction programs.
2. “Changes of construction programmes” To reduce the negative influence of the two risks, an informative programme scheduling should be worked out in the design phase.
3. “Lack of coordination between project participants” may lead to chaos in the management of construction team and programmes. A general contractor or project manager who is skilful in team and programme coordination should be engaged. On the other hand, strengthening the participant’s perception of cooperation and communication is also of importance for improving construction quality and efficiency.
4. “Unavailability of sufficient professionals and managers” and “unavailability of sufficient amount of skilled labour” may result in delays in the construction phase. The contractors should be mapping the construction progress all the time and coordinating different project stakeholders in order to secure sufficient professionals, managers and skilled labours ready to work.
5. “Occurrence of dispute” exists in most construction projects, on account of the discrepancy and variations in the design and construction. Encountering any design variations or difficulty in construction, contractors should always discuss with the team and negotiate with the project manager (particularly the representative of clients) about potential changes in the documentation and record the resulted delay of progress in a construction log.
6. “Serious dust or other pollution caused by construction” is a serious issue in Uganda as it may lead to the neighbours’ complaints and then result in political and civic interference. Traffic on busy roads can affect the rate of progress and safety of construction works as well as discontent amongst road users.
7. “General safety accident occurrence” is usually due to lack of project management, negligence of construction safety policy and confliction of unparallel construction programmes. Once happening, it will bring on personnel change and further impede the construction progress. Therefore, contractors should establish a systematic construction programme scheduling and provide safety training to on-site staff to improve their awareness of safety.

**1.6.4 Risks related to subcontractors**

“Low management competency of subcontractors” is the common key risk related to subcontractors. Unlike a general contractor who continuously manages a construction site for a long period, subcontractors normally allocate their manpower and other resources to different projects in order to achieve maximum profit of their own businesses. Without competent management skills, subcontractors cannot successfully manage their resources to meet the needs from several concurrent construction sites. Accordingly, in additional to specialist abilities, the management competency should be regarded as one of the key criteria for appointing subcontractors.

**1.6.5 Risks related to government bodies**

“Excessive approval procedures in administrative government departments” and “Bureaucracy of government processes” are commonly complained of by clients and contractors. These risks are normally out of the control of the project stakeholders.

To attract investment within their administrative territory, the government agencies should always make great efforts to create a friendly environment in which the approval procedures are reduced or at least the approval time is shortened, and the bureaucracy is minimized.

From the project team perspective, they should always adopt the strategies of maintaining close relationship with local government officers and communicating with them as much as possible and at the same time recording everything in black and white.

**1.6.6 Risk related to external issues**

In addition to the above there are some key risks related to project stakeholders, one risk, “price inflation of construction materials”, is identified to be related to external environment. The price of construction materials is always changing in response to the inflation and the relationship between supply and demand in the construction material market. As this risk is usually unavoidable, clients should choose an appropriate type of contract such as lump-sum to transfer the risk to other parties; while contractor should always avoid using fixed price contracts to bear the risk. One fair way to deal with the potential price fluctuations is to add a contingency premium.

# 1.7 Steps an Entrepreneur can take to reduce their business risk

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Chirantan Basu

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Business risks facing entrepreneurs include the risk of default, insufficient cash flow, delinquent customers and competitive pressures. Small businesses are especially vulnerable because they usually do not have the financial cushion of larger competitors. Entrepreneurs must take prudent steps to ensure survival, prepare for growth and demonstrate their risk management abilities to potential investors and lenders.

**Operational Risk Management:** Operational risk includes the effect of natural disasters on supply and logistics, quality problems and supply chain problems. Risk management options include buying insurance protection, tightening logistical control procedures, close supervision of works, diligently following-up on unpaid invoices and rigorous cost controls.

**Debt Reduction:** Small business owners should reduce their reliance on short-term and long-term debt. This reduces interest expenses and the risk posed by rising interest rates to cash flow. Debt reduction strategies involve converting debt to equity, which means giving investors a share of the company in exchange for funding; using internally generated cash flow from sales to finance operations; reducing draw outs and refinancing variable-rate debt to fixed-rate debt to make future interest payments more predictable.

**Diversification:** Businesses that rely on one service are vulnerable to changes in customer preferences and to new entrants in the business. Similarly, relying on a few customers for the majority of business exposes a business to concentration risk. Diversification in terms of services, customers and geographic markets reduces the risk posed by depending exclusively on one source of revenue.

**Quality Control:** Defective works may expose a business to expensive customer lawsuits, repeat works and regulatory action such as blacklisting. Rigorous quality control and training are two ways to preserve a company's reputation and protect against lost market share to competitors.

**Human Resource management**: Small businesses often hire consultants instead of full-time staff to manage their staffing levels and compensation expenses. However, this introduces new risks because contracted staff may leave for better paying full-time jobs, especially if the job market is good, and companies would then have to allocate additional resources to hire replacements and bring them up to speed.

**Mentors:** Entrepreneurs should bring on technical advisers and experienced management consultants to serve as mentors and board members, who understand the growing pains of new businesses. The involvement of senior credible mentors is particularly useful when applying for venture capital funding or small business loans; because it assures potential investors and lenders that the company is in capable hands.

**Partners:** Collaborating with other small businesses, especially when bidding on large contracts, is another useful risk management tool. However, management must choose the partners with care because incapable or financially troubled partners might increase risk and liability. Businesses with complementary skills and solid fundamentals make good partners.

## Walking Away: Entrepreneurs should not be afraid to walk away from customers who are habitually late in making payments or whose requirements change frequently. Projects that require high initial capital investments may also not be worth the risk for a resource-constrained small business.

# 1.8 How to Develop a Risk Management Plan

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Eric Johnston

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Risk management should begin early during the project management cycle.

Risk management plans attempt to minimize potential negative consequences while maximizing potential positive consequences. Developing a risk management plan should be viewed as an investment by the small-business owner because maximizing positive outcomes ultimately boosts the bottom line. The process of developing a risk management plan includes identifying the risk, analyzing it, preparing to take steps to counter it, and finally, countering it. Incorporating a risk management plan into any project undertaken will help solve problems before they arise. Steps to be taken include:

1. **Identify the risk.** For example, a civil engineering project is contracted by the city to build a road with a sidewalk that intersects with a railroad track. The risk is the potential harm of trains coming into contact with people and vehicles.
2. **Analyze the risk.** Use all available data to make an assessment to determine how significant the risk is. Continuing the example, the civil engineering firm gathers data on railroad crossings and determines that the significance of the potential harm to people and property is severe to catastrophic if a person or vehicle remain on the crossing while a train approaches.
3. **Mitigate the risk.** This is the action that will be taken to offset the risk from occurring. Continuing the example, the engineering firm decides that standard crossing gates are insufficient for this railroad crossing. The firm decides that it will install barriers that can that will sensor and close out vehicles automatically a few minutes before the train approaches.
4. **Monitor the risk.** Assess if there are any changes as work progress. This step is dynamic because when a plan is implemented it is often difficult to account for every risk. For example, during construction of the railroad crossing, the engineering firm discovers that at night a nightclub situated near the railroad track produces so much noise that the audio alert to signal an approaching train cannot be heard by pedestrians who are crossing the tracks.
5. **Respond to the risk.** In this example, the firm responds to the nightclub problem by increasing the number of visual warnings and increases the volume level on the audio alerts.

**1.9 Risk mitigation**

Risk mitigation is the process of minimizing the probability of a risk’s occurrence or the impact of the risk should it occur.

**Risk mitigation** is the process through which a corporation reduces its risk exposure. Risk mitigation is therefore closely linked with the process of risk transferring.

The following risk assessment matrix- known as the severity/frequency matrix or the likelihood/consequences matrix-can is used to set **priorities** for **risk mitigation**.

**Severity**

|  |  |  |
| --- | --- | --- |
|  | **Low** | **High** |
| **L**  **Low** | Loss of minor suppliers | Loss of senior or specialist staff  Loss of contracts to competitor  Loss of contracts due to macro economic factors |
| **High** | Loss of lower- level staff | Break down of key equipment  Failure to obtain bank funding |

**Probability**

A company’s risk mitigation strategy can be linked into the matrix above and also the company’s appetite for risk taking. (**TARA Approach**)

**Severity**

|  |  |  |
| --- | --- | --- |
|  | **Low** | **High** |
| **Low** | **Accept**  Risks are not significant, and costs of dealing with risks unlikely to be worth the benefits. Keep under view. | **Transfer**  Insure risk or implement contingency plans for reduction of severity of risk; this will minimize insurance premiums too. |
| **High** | **Control or Reduce**  Take some action, e.g. enhanced control systems to detect problems or contingency plans to reduce impact. | **Abandon or Avoid**  Take immediate action, e.g. Purchase another stand by equipment or decline the job. |

**Probability**

**2.0 Risk management strategies**

There are four strategies for managing risk and these can be undertaken in sequence. In the first instance, the construction firm should ask whether the risk, once recognized, can be transferred or avoided.

1. **Transference** means passing the risk on to another party which, in practice means an insurer or a business partner in another part of the supply chain (such as a supplier or sub contractor). Risk whose impact is severe but likely incidence is low are most likely to be transferred.
2. **Avoidance** means asking whether or not the organization needs to engage in the activity or area in which the risk is incurred. Risk that has a high incidence to occur with whose impact is severe must be avoided by a mitigating act or by abandoning the activity. For example, if a contractor is to grade a road but owns an old grader with high probability that it will fail, if there are no likely sources of other machines to hire the contractor will have to buy another machine before accepting to take on the contract.
3. If it is decided that the risk cannot be transferred or avoided, it might be debated whether or not something can be done to **reduce** or **mitigate** the risk. This might mean, for example, reducing the expected return in order to diversify the risk or re-engineer a process to bring about the reduction. **Risk sharing** involves finding a party that is willing to enter into a partnership so that the risks of a venture might be spread between the two parties. For example an investor might be found to provide partial funding for an overseas investment in exchange for a share of the returns.
4. Finally a construction firm might **accept** or **retain** the risk, believing there to be no other feasible option. Such retention should be accepted when the risk characteristics are clearly known (the possible hazard, the probability of the risk materializing and the return expected as a consequence of bearing the risk).

**Group discussions;**

1. Using common examples, explain what you understand by risk.
2. Discuss the common causes of business risks.
3. Identify the risk factors in the road construction business.
4. Suggest measures that the business entrepreneurs may put in place to address business risks.
5. Describe how the business entrepreneurs may develop a risk management plan