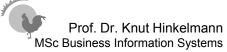


Business Motivation Modelling

Prof. Dr. Knut Hinkelmann







Literature

- David M. Bridgeland, Ron Zahavi (2009). Business Modeling
 A Practical Guide to Realizing Business Value, Chapter 3.
 Morgan Kaufman Publishers/OMG Press.
- OMG (2010) Business Motivation Model, Version 1.1, http://www.omg.org/spec/BMM/1.1/PDF (referenced as (OMG-BMM 2010))



Motivation

- Fundamental to the Business Motivation Model is the notion of *motivation*:
 - ♦ If an enterprise prescribes a certain approach for its business activity, it ought to be able to say 'why;' i.e.
 - What result(s) is the approach meant to achieve
- Sometimes it is difficult to uncover such motivation, especially in operations that have been going on for some time. All too often it turns out to be "... because we had to find a workaround for a system that didn't do quite what was needed." This may describe business work practice, information systems, or both.



Business Motivation modeling makes the reasons for decisions explicit.



Key Ideas of the OMG Business Motivation Model

- Business Perspective
- Motivation
- Reaction to Change
- Separation of concerns
- Decomposition
- Metrics

For details see: OMG, Business Motivation Model, Version 1.1, chapter 7.2 http://www.omg.org/spec/BMM/1.1/PDF

(OMG-BMM 2010)



Key Idea (1): Motivation

- Enterprises do not or should not act randomly. When an enterprise executes a business process or applies a business rule, it should be able to say why.
 - Business processes realize courses of action, which are undertaken to ensure that the enterprise makes progress towards one or more of its goals
 - Business rules are derived from business policies.
- Much of the motivation for what an enterprise does is based on people in the enterprise deciding what is best for it (what are the goals, strategies, processes, rules, ...)
- The enterprise should be able to say who decided about the motivation, and **on what** *assessments* of what *influences*.

(OMG-BMM 2010, p. 10)



Key Idea (2): Reaction on Change

- Fundamental assumption: what an enterprise does is not driven by change but by how the enterprise decides to react to change. This requires
 - recognition of changes caused by *influencers*
 - assessment of their impact on the enterprise
- Business Motivation Model supports traceability:
 - ◆ Forward: from impact of influence to specification of business processes, business rules, and organization responsibilities.
 - ◆ Backward: show why an enterprise does what it does in the way it does it.
- Traceability is important for transformation projects: If we know the reasons for decisions, why can assess what can be changed and what should not be changed
 - not to change parts of the architecture which are essential
 - not to keep elements of the architecture that are not useful anymore
- In practice, businesses do not have complete traceability of motivation. But, when they choose to move towards it, the Business Motivation Model will support it.



A Story: Meditation

A guru held an evening meditation with his disciples daily. When the domestic cat one day ran into the meditation room and disturbed the meditation, he ordered, that the cat shall be bound outside during this time. So one could meditate undisturbed from there again. But the time passed. The guru died and got a successor. His successor observed strictly the tradition that during the evening meditation outside »a cat« must be tied up. When the cat finally died, too, a new cat was acquired to be able to be tied up during the evening meditation. With the time the evening meditation, however, completely came out of use itself; nobody was interested in it anymore. But with the greatest probability the rite of the binding a cat in the evening was kept at least – There may be tradition similar to this one which have completely lost their original justification and thus their meaning.



Translated from: Peter Knauer (2002). Handlungsnetze – Über das Grundprinzip der Ethik. Frankfurt



Business Motivation Modeling for Strategy and Business Transformation

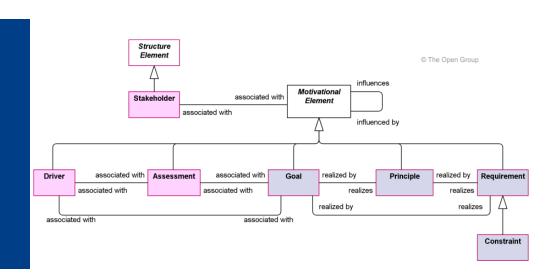
- Business Motivation Modeling can play a role in
 - creating a new strategy
 - business transformation projects
- In creating a strategy, modeling serves to legitimize differences of opinion. Alternative strategies can be analysed and the results can be compared objectively.
- Business transformation projects change specific sections of the enterprise architecture. Motivation modling makes the reasons for decision explicit and supports consistency in decision making between different projects, e.g.
 - not changing elements that are essential for other projects
 - not keeping elements that are not needed anymore

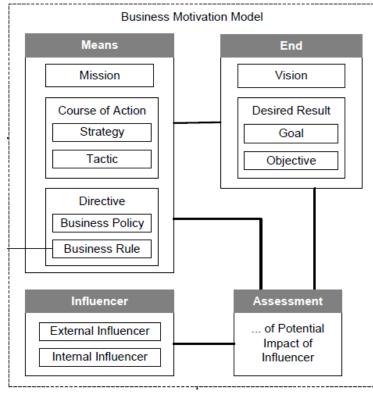


Two Approaches for Motivation Modeling

ArchiMate Motivation Extension

OMG Business Motivation Model





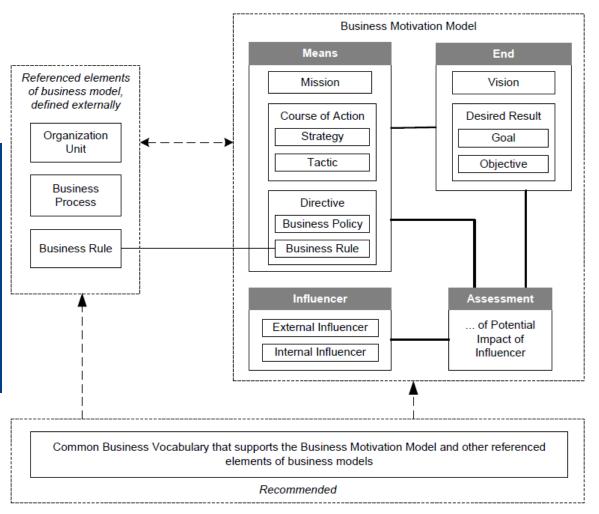


OMG Business Motivation Model

- Business Motivation Model (BMM) is an OMG Specification (www.omg.org/spec/BMM/1.1/PDF). Purposes:
 - ♦ To capture decisions about reaction to change and the rationale for making them
 - increasing clarity and improving decision-making by learning from experience.
 - ◆ To reference the outcomes of the decisions to their effect on the operational business (e.g. changes made to business processes and organization responsibilities),
 - providing traceability from influencers to operational change
- BMM does not specify a graphical look for BMM diagrams.
 - In this chapter we use a graphical look for BMM diagrams created by (Bridgeland & Zahavi 2009) and model them using the Agilian BMM model type



Overview of the BMM Structure



BMM distinguishes between

- Core Concepts defined within the BMM
 - ◆ Ends, Means, Influencer, Assessment, ...
- Placeholders referenced by the BMM but defined in other models
 - Business Process, Business Rule, Organisation Unit, Asset, Liability

(OMG-BMM 2010, p. 12)



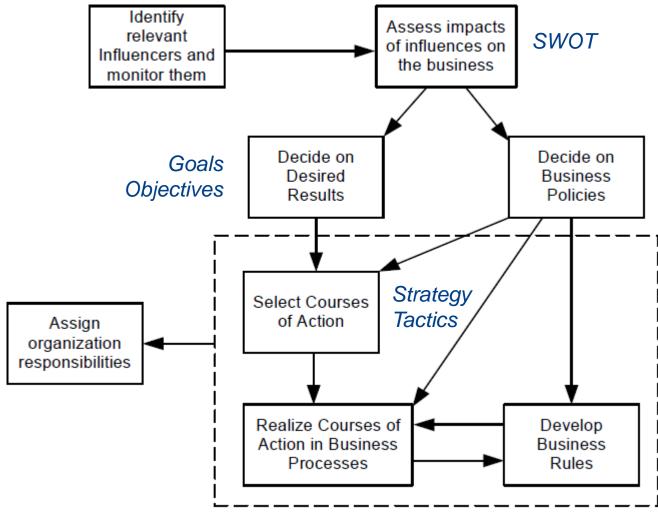
Overview of Business Motivation Modeling

- A cornerstone of any work addressing motivation has to be the
 - enterprise's aspirations (its *Vision*) refined into *Goals* and *Objectives* (called the *Ends*)
 - ♦ its action plans for how to realize them (its *Mission*) refined into *Strategies* for approaching *Goals*, and *Tactics* for achieving *Objectives* (called the *Means*)
- An enterprise, however, cannot operate on this Model of ends and means alone. The business needs to take into account the numerous *Influencers* that can hinder or assist its operation.
 - ◆ Influencers can provide *Opportunities* that would help the enterprise operate, as well as *Threats* that would thwart it. Influencers also represent *Strengths* the enterprise could exploit, or *Weaknesses* that it should compensate for.
 - Whether Influencers are Strength, Weaknesses, Opportunities or Threads is determined by Assessments.
- Once an Assessment has identified relevant Influencers in terms of their impact on Ends and Means, Directives (Business Policies and Business Rules) can be put in place to govern and guide the enterprise Courses of Action. (OMG-BMM 2010, p. 9)



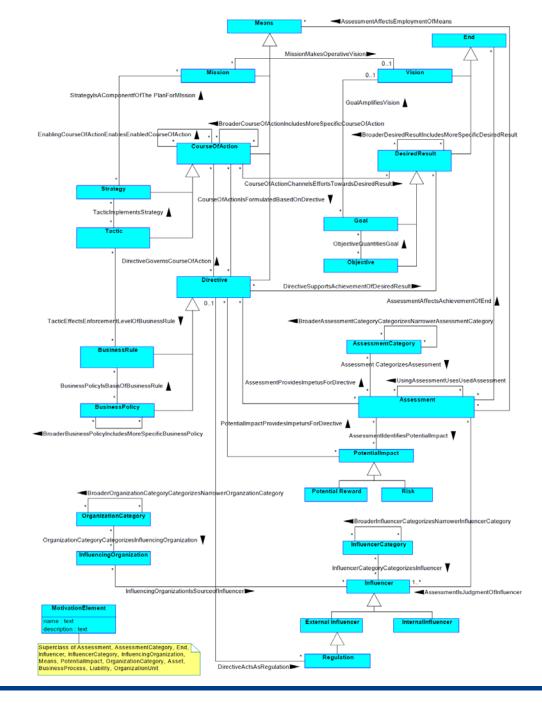
Logical Progression Through the Business

Motivation Model

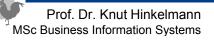


(OMG-BMM 2010, p. 17)

n|*w BMM Metamodel* – Core Concepts



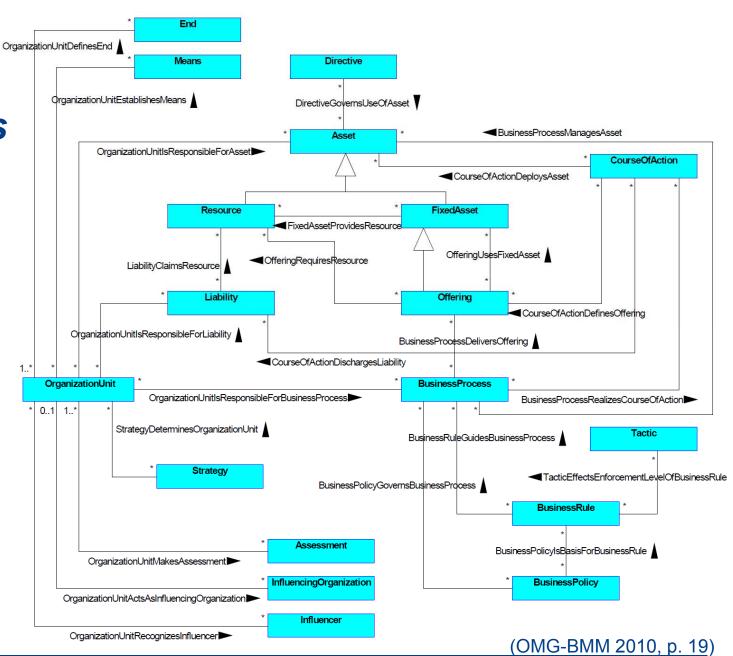
(OMG-BMM 2010, p. 18)



Business Motivation Model 14



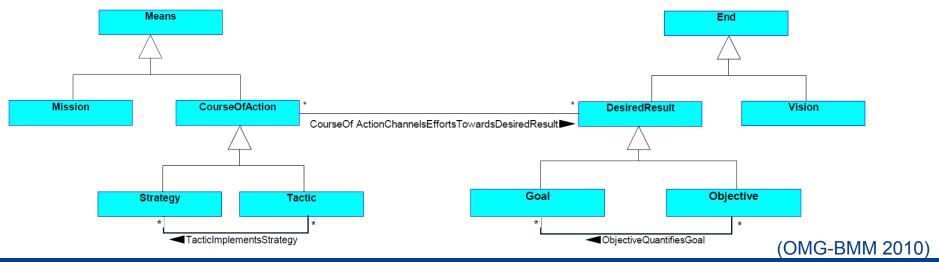
BMM Placeholders





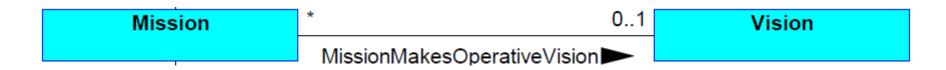
Means - Ends

- The general term *End* was adopted to refer broadly to any of the 'aspiration' concepts (Vision, Goal, Objective)
- The term *Means* was adopted to refer generally to any of the 'action plan' concepts (Mission, Strategy, Tactic).
- This conjunction of Ends ('being') and Means ('doing') provides the core concepts of the Model
- Means can be changed without changing the ends; vice versa is, perhaps, not so common.

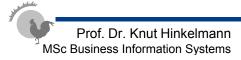


n|w Mission - Vision

- A cornerstone of any work addressing motivation has to be
 - ♦ the enterprise's aspirations: its Vision
 - ♦ its action plans for how to realize them: its *Mission*



- Refinements were introduced:
 - Vision is refined into Goals and Objectives
 - Mission is refined into
 - Strategies for approaching Goals, and
 - Tactics for achieving Objectives.



(OMG-BMM 2010)

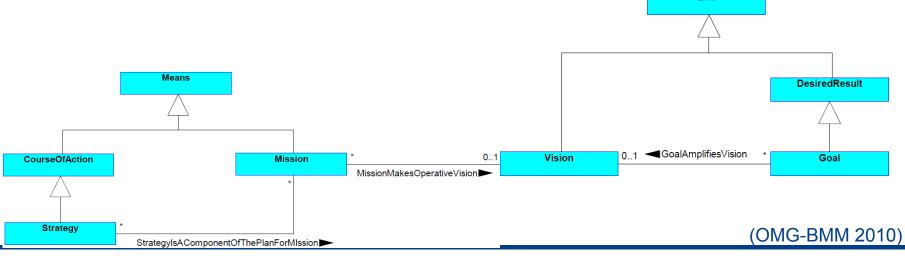


Mission - Vision

- A Mission indicates the ongoing operational activity of the enterprise.
- The Mission describes what the business is or will be doing on a day-to-day basis.
 - ◆ A Mission makes a Vision operative

 that is, it indicates the ongoing activity that makes the Vision a reality.
 - A Mission is planned by means of Strategies.

- A Vision describes the future state of the enterprise, without regard to how it is to be achieved.
- A Vision is often compound, rather than focused toward one particular aspect of the business problem.
 - ♦ A Vision is supported or made operative by Missions.
 - A Vision is amplified by Goals.





Examples of Visions and Missions

Visions:

Enterprise	Vision
EU-Rent	Be the car rental brand of choice for business users in the countries in which we operate.
Pizza Company	Be the city's favorite pizza place.
Consulting Company	Be the premier consulting company in the industry.
Retail Pharmacy	Be the low-cost health care provider with the best customer service.
Municipal Police Department	Be a professional, trusted provider of police services — a leader in cooperative efforts with the neighborhood and other agencies to make our city safer.

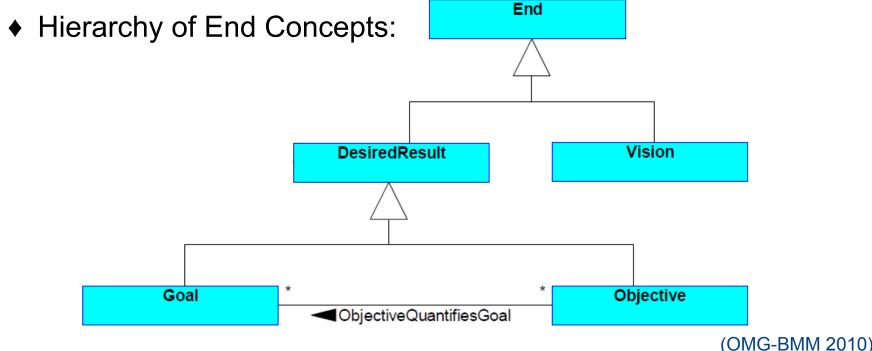
Missions:

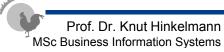
Enterprise	Mission
EU-Rent	Provide car rental service across Europe and North America for both business and personal customers.
Pizza Company	Provide pizza to customers city-wide.
Consulting Company	Provide consulting, outsourcing, and staff augmentation services to companies in North America.
Retail Pharmacy	Provide generic and ethical drugs to the retail market.
1	(OMG-BMM 2010)



Core Elements of the BMM: End

- An End is something the business seeks to accomplish
 - ♦ It does not include any indication of how it will be achieved.
 - ♦ It is useful to document who *defined* the End and at what point in time, so that an audit trail exists for future reference.







Goals

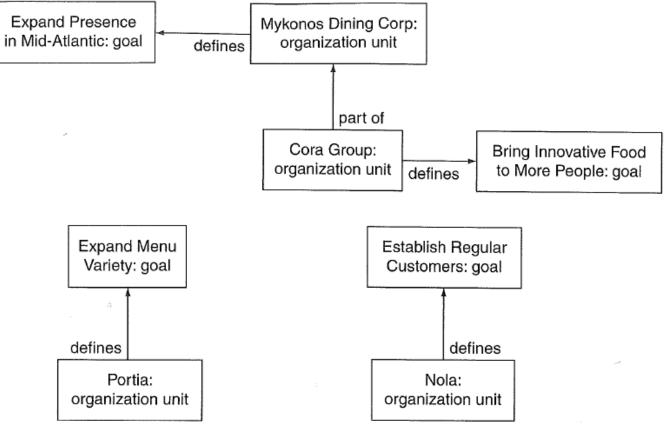
- Motivation modeling is about the achievement of goals.
- A goal is an end result something an organisation is trying
 - ♦ to achieve for its own sake
 - rather than a means to some other end
- Example:
 - ◆ Expand Menu Variety is a goal
 - ◆ Offer Daily Specials is not a goal but a means to expand menu variety (i.e. Offer Daily Specials is a strategy – strategies are attempted to achieve goals not for their own sake)



Goals and Organizations

■ A goal is defined by an organisation that is trying to achieve

the goal

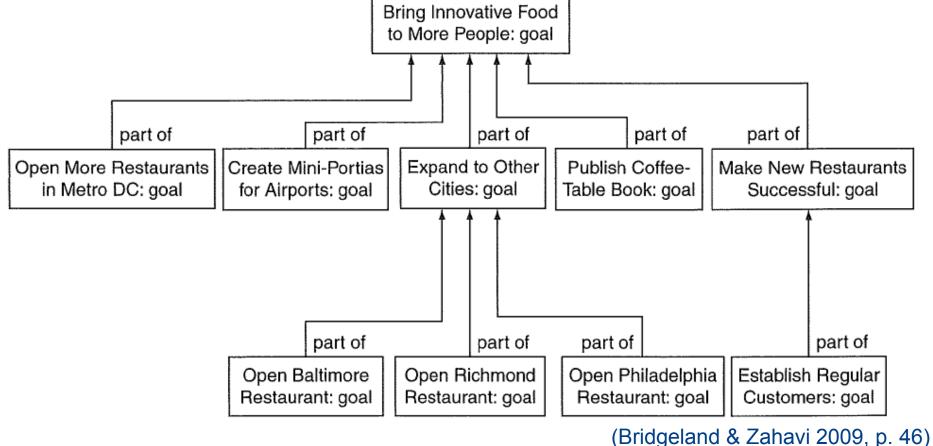


(Bridgeland & Zahavi 2009, p. 45)



Goal Hierarchies

Larger Goals are often decomposed into subgoals





Objectives

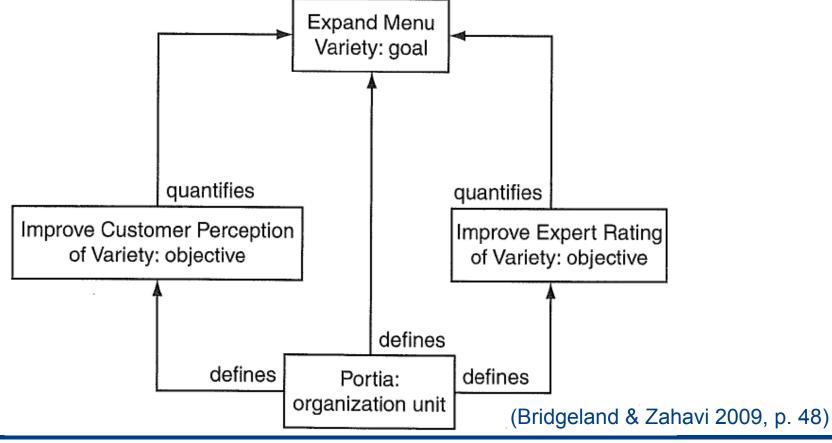
- Goals are complemented by objectives
- Objectives are desired results like goals, but they are specific about both timing and measurement
- An Objective is a statement of an attainable, time-targeted, and measurable target that the enterprise seeks to meet in order to achieve a Goal.
 - ◆ SMART: **S**pecific, **M**easurable, **A**ttainable, **R**elevant, and **T**ime-Based
- Example:
 - ◆ The objective 3 City Openings by End of Year quantifies the goal Expand to Other Cities
 - by a measurement three cities
 - by a timing by end of the year

(Bridgeland & Zahavi 2009, p. 46f)



Objectives, Goals and Organisation

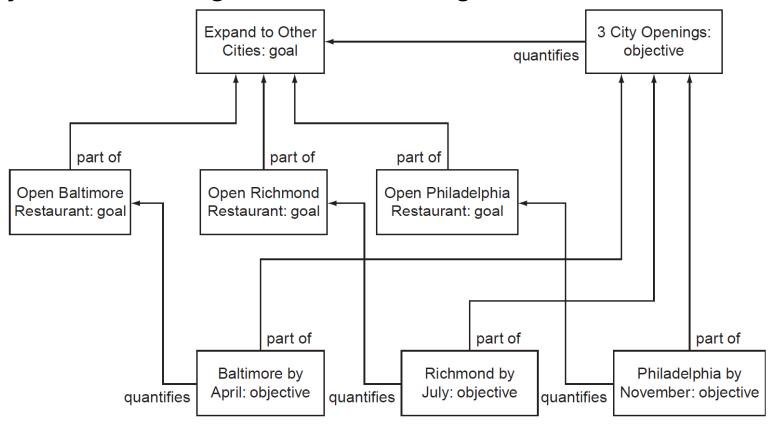
■ Objectives – like goals – are defined by organisations.





Hierarchies of Objectives and Goals

■ Objectives – like goals – can be organized into a hierarchy

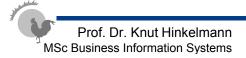






Desired Results and Courses of Action

- Objectives and goals are similar in that they are both desired results
- Both courses of action and desired results are things the organization is trying to accomplish.
 - A desired result is something an organization is trying to do for its own sake
 - ♦ Courses of actions are means to the other ends, i.e. they are ways to achieve the goals and objectives
- The difference between courses of action and desired result is the difference between journeys and destinations
 - ♦ A course of action is the journey
 - ♦ A desired result is the destination

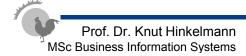


(Bridgeland & Zahavi 2009, p. 49f)



Desired Results and Courses of Action - Example

- Assume that a restaurant adds two goat dishes to the menu
 - ♦ If the head chef does this because he always wanted to serve goat, then Add Goat Dishes is a desired result
 - ♦ If he added the goat dishes in an effort to have some new newspaper articles then Add Goat Dishes is a course of action achive a goal like Increase Media Coverage
- There is a difference in failing desired results or courses of action
 - ♦ If Add Goat Dishes is a desired result then the failure to achieve it is the end of the story
 - ◆ If Add Goat Dishes is a means to achieving the goal Increase Media Coverage, then the failure to achieve it will lead to a search for other ways of getting media coverage

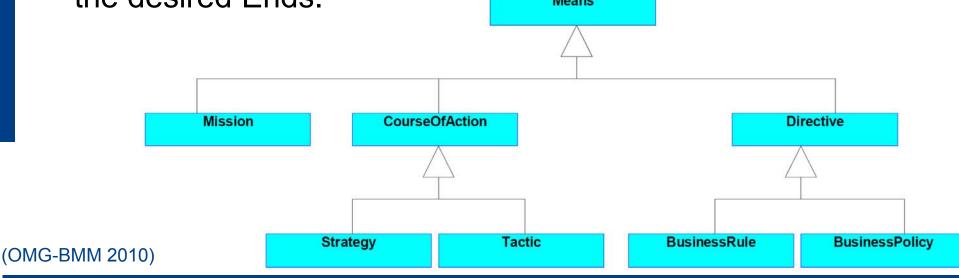


(Bridgeland & Zahavi 2009, p. 50)



Core Elements of the BMM: Means

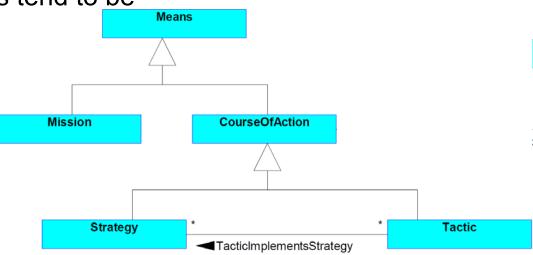
- A Means represents any device, capability, regime, technique, restriction, agency, instrument, or method that may be called upon, activated, or enforced to achieve Ends.
- A Means *does not indicate* either the steps (business processes) necessary to exploit it, nor responsibilities, but rather *only the capabilities* that can be exploited to achieve the desired Ends.





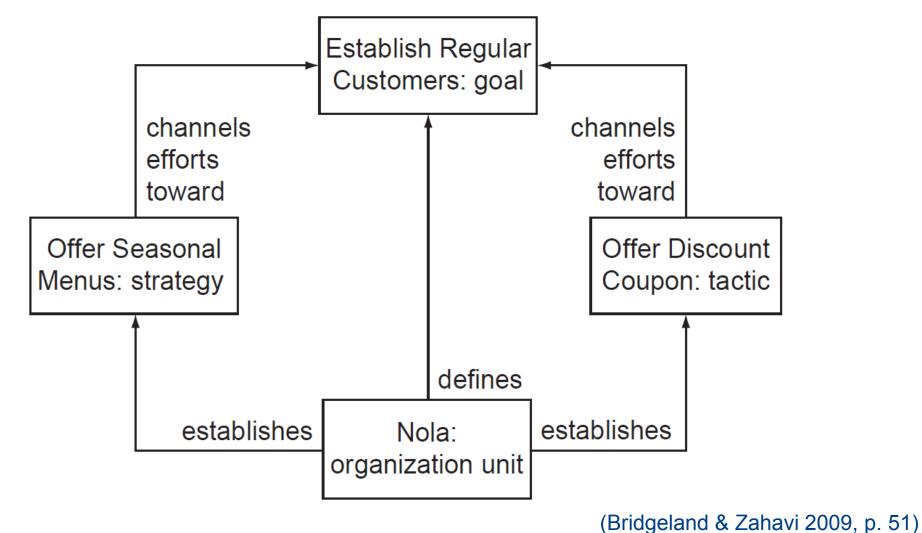
Strategies and Tactics

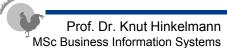
- Courses of action come in two varieties
 - ♦ strategies
 - ♦ tactics
- The difference between the two is a matter of size and commitment.
 Compared to tactics, strategies tend to be
 - ♦ longer term
 - ♦ broader in scope
 - harder to change
- A Tactic *implements* Strategie
- For example, the Tactic Call first-time customers personally implements the Strategy Increase repeat business.





Example: A strategy and a tactic

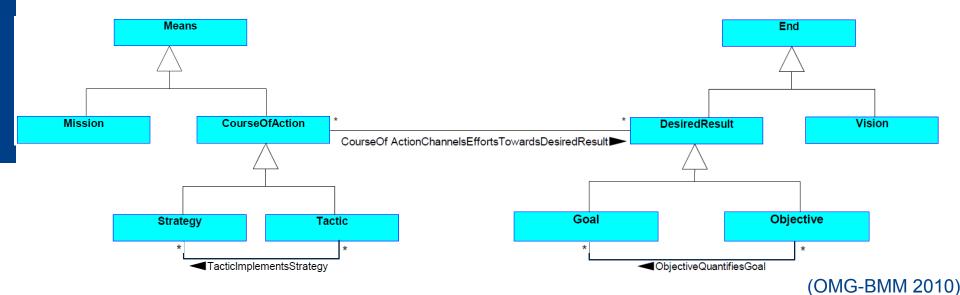






Strategies and Tactics

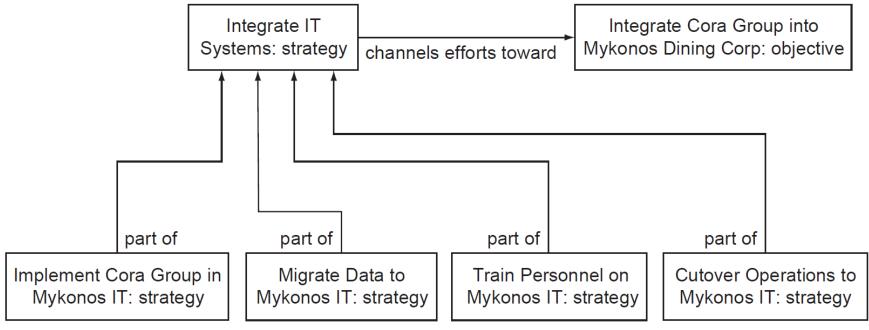
- A Strategy represents the essential Course of Action to achieve Ends.
- A Strategy usually *channels efforts towards* those Goals.
- Tactics generally *channel efforts towards* Objectives.





Hierarchies of Strategies

- Strategies can be decomposed into sub-strategies
- Hierarchies of tactics are less common since tactics are small enough to be implemented on their own.

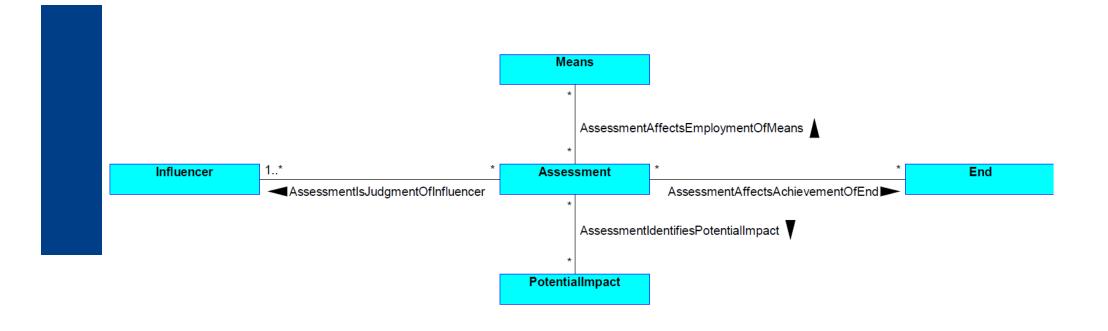


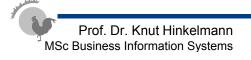
(Bridgeland & Zahavi 2009, p. 52)



Influencers and Assessment

An assessment is an evaluation of an *influencer's* potential effect on *ends* and *means* of a business

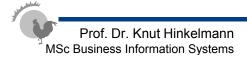






Influencers

- An infuencer is anything that can have an effect on an organization, anything that can potentially hinder it or assess it.
- Every business will have hundreds of potential influencers.
- In practice we model only the influencers that affect
 - our strategies and tactics (i.e. the means)
 - our goals and objectives (i.e. the ends)
- Influencers are neither good nor bad
 - ♦ They only become good or bad if they are judged as opportunities, threats, strength or weaknesses (see assessments)
- Influencers should be stated in a neutral, factual manner.

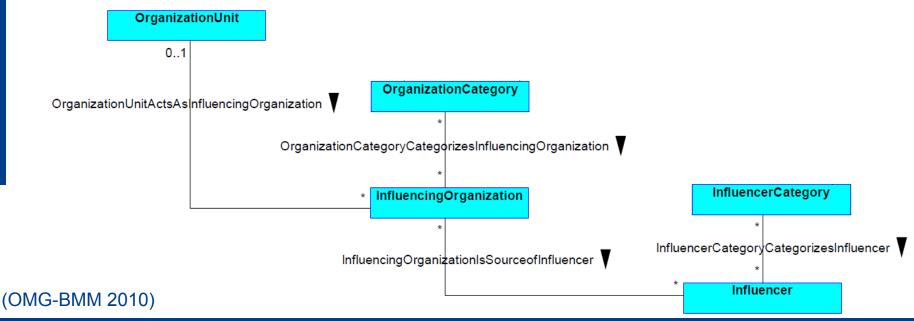


(Bridgeland & Zahavi 2009, p. 52f)

 $\mathbf{n}|w$

Categories of Influencers

- There are different Categories of Influencers, broad ones are
 - ♦ Internal Influencers
 - ♦ External Influencers
- An Influencing Organisation
 - influences the enterprise
 - ♦ is external to the enterprise modeled in the given BMM





Examples for External Influencers of EU-Rent

Enterprise	External Influencer	Category
EU-Rent	Two smaller competitors have merged and the joint enterprise is now bigger than EU-Rent in several European countries.	Competitor
EU-Rent	'Premium brand' car rental companies such as Hertz and Avis have a 'high quality, value for money' image – and can charge higher rates.	Competitor
EU-Rent	 Market research has determined that customers: generally accept that the rates for 'premium brand' car rental companies will be higher than the 'cheap and cheerful' competition. tend to see 'on-airport' companies as premium and 'off-airport' as cheap and cheerful. 	Customer
EU-Rent	Car parking and storage in city centers is limited and expensive.	Environment
EU-Rent	The car rental market in Eastern Europe growing year-on-year by at least 5% per year.	Environment
EU-Rent	All on-airport car rental companies offer similar types of car, and are physically lined up in a row. If any promotes a special offer, others react almost immediately, so there is very little room for maneuver against competitors on product, service. or price.	Environment & Competitors
EU-Rent	Laws and regulations in each country of operation for: driver license and insurance; roadworthiness of cars, including emissions; protection of customer personal information.	Regulation
EU-Rent	Car manufacturers – car models and options offered, prices, contract terms, and conditions.	Supplier
EU-Rent	Insurers – cover offered, options, premiums.	Supplier
EU-Rent	Vehicle identification and tracking systems.	Technology



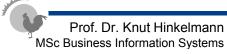
Examples of External Influencers for Cora Group

External Influencer	Category
A Fast-food Restaurant has opened close to Portia Restaurant	Competitor
Increasing Public Interest in Ethnic Fare	Customer
Innovative Restaurant Shortage in Western Suburbs	Environment
Emergence of Diner Restaurant Reviews	Environment
New Anti-smoking Regulation	Regulation



Examples for Internal Influencers of EU-Rent

Enterprise	Internal Influencer	Category
EU-Rent	EU-Rent needs to expand its business year on year.	Assumption
EU-Rent	A loyalty rewards program is essential for attracting business customers.	Assumption
EU-Rent	Successful branch managers are usually allowed to remain at their branches for as long as they want to.	Habit
EU-Rent	Cars are owned by local areas, not by rental branches. The cars owned by a local area are available to all branches in the area.	Infrastructure
EU-Rent	Rental reservations can be made by telephone, via Internet, or in person. A rental branch can accept an in-person reservation for any other EU- Rent branch.	Infrastructure
EU-Rent	To what extent car maintenance and servicing should be outsourced.	Issue
EU-Rent	The EU-Rent board has decided to give priority to Eastern Europe for business expansion in the next three years.	Management Prerogative
EU-Rent	Cars – popular models from reputable manufacturers, low mileage, environment-friendly, low-cost maintenance.	Resource
EU-Rent	EU-Rent is environment-friendly. All the car models it offers for rental have good fuel economy and low emissions.	Explicit Corporate Value
EU-Rent	EU-Rent offers quality, service and value for money, rather than lowest possible price.	Explicit Corporate Value
EU-Rent	Rental branch staff are supportive of colleagues and customers. For example, if there is a long queue of customers, they will help colleagues on the counter without needing direction from the manager to do so, and may delay a rest break until the queue is cleared.	Implicit Corporate Value





Examples of Internal Influencers for Cora Group

Internal Influencer	Category
Cora has to expand ist business year on year	Assumption
Managers are generally promoted from within the company	Habit
New waiters receive two days introductory training. Further training is informal, on the job.	Habit
Cash registers are used with personal key card	Infrastructure
Small Space	Infrastructure
Closing for Events Disappoints some customers	Issue

n w Directive as Regulation

- Regulation is an Influencer Category explicitly defined by BMM
- A Directive may *act* as some other Organization Unit's Regulation.
- The Business Rules and Business Policies InfluencerCategory determined at one level in an organization may be effectively the Regulation for InfluencerCategoryCategorizesInfluencer lower-level organizations. Means Influencer DirectiveActsAsRegulation▶ 0..1 Directive Regulation **BusinessPolicy BusinessRule** (OMG-BMM 2010)



Assessment

- An assessment is an evaluation of an influencer's potential effect on business
- BMM supports a general categorization of Assessment
 - ♦ Strength: advantage or area of excellence within the enterprise
 - ♦ Weakness: area of inadequacy within the enterprise
 - ♦ Opportunity: some Influencer can have a favorable impact
 - ♦ Threat: some Influencer can have an unfavorable impact
- Different people or groups of people might make different Assessments of the very same Influencers— and perhaps even the same person or group of people at different points in time.
- It is important to indicate which person or group of people makes which Assessment of an Influencer at which point in time, so that an audit trail exists for future reference



Assessment

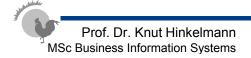
- Varieties of Assessments
 - ♦ An external influencer that is judged to be favorable is an opportunity
 - ◆ An external influencer that is judged as unfavorable is a threat
 - ♦ A positive assessment of an internal influencer is a strength
 - ♦ A negative assessment of an internal influencer is a weakness
- Strength, Weaknesses, Opportunities and Threads could be determined by a SWOT analysis

	Internal	External
Positive	Strength	Opportunity
Negative	Weakness	Threat



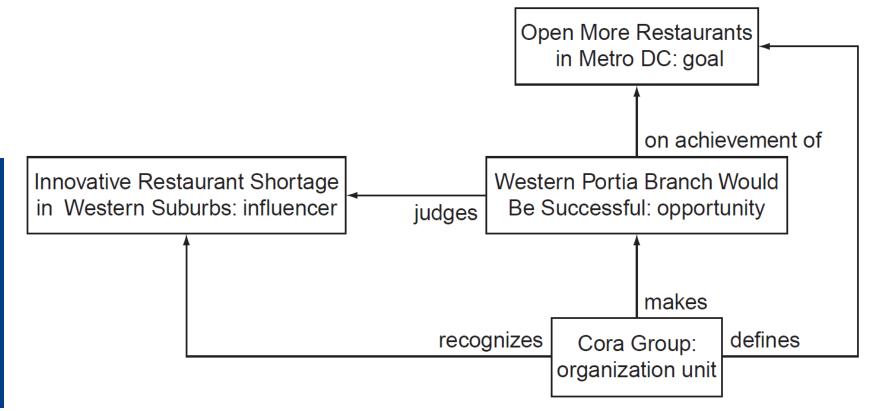
Opportunities

- An opportunity is a favorable situation for a buiness for achieving its goals
- Someone may judge that an influencer presents an opportunity
 - the influencer is a simple statement of the situation
 - the opportunity is the claim that the situation can be exploited for buiness advantage
- Example:
 - ♦ Assume that for a restaurant chain there is an Influencer Innovative Restaurant Shortage in Western Suburbs
 - ♦ This influencer could be judged as an opportunity to open a new restaurant: Western Portia Branch Would Be Successful





Example: An Influencer and an Opportunity



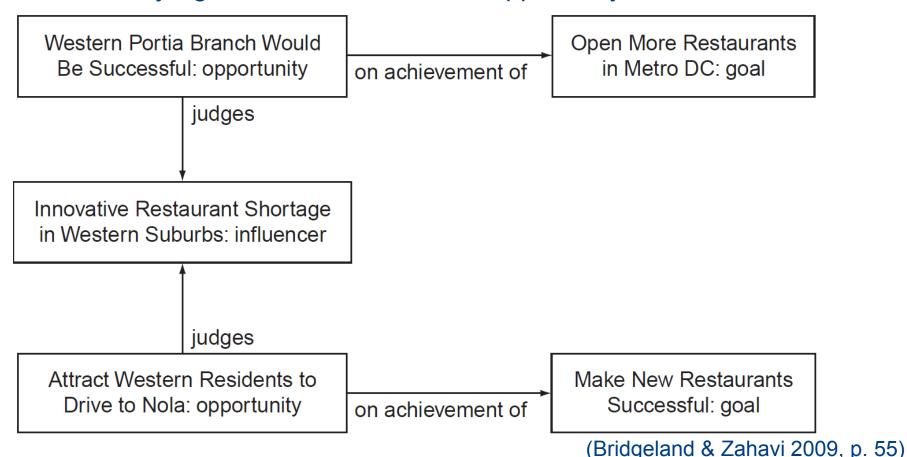
It is important to indicate which person or group of people makes which Assessment of an Influencer at which point in time, so that an audit trail exists for future reference. In the above example the judgement is made by the Cora Group organisational unit

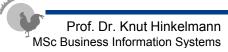
(Bridgeland & Zahavi 2009, p. 54)



Example: An Influencer and Two Opportunities

Sometimes a single influencer can help achieve more than one goal and so it is judged to be more than one opportunity

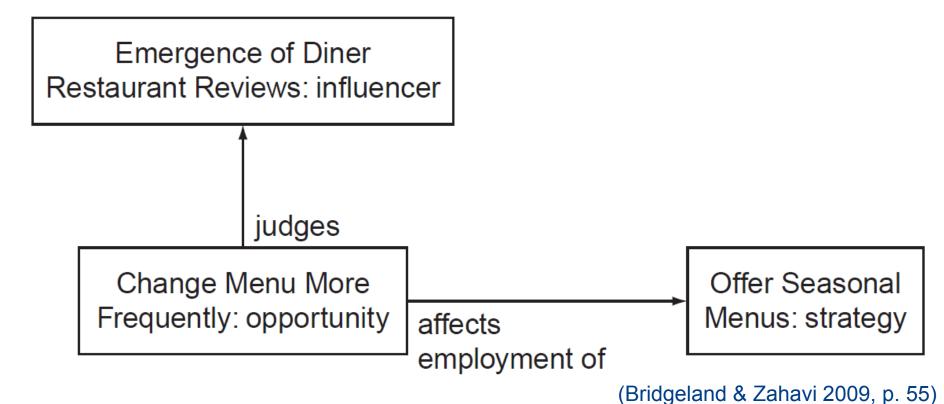


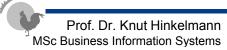




Opportunities and Strategies

An opportunity can affect the application of a strategy as well as directly affect the achievement of a goal.

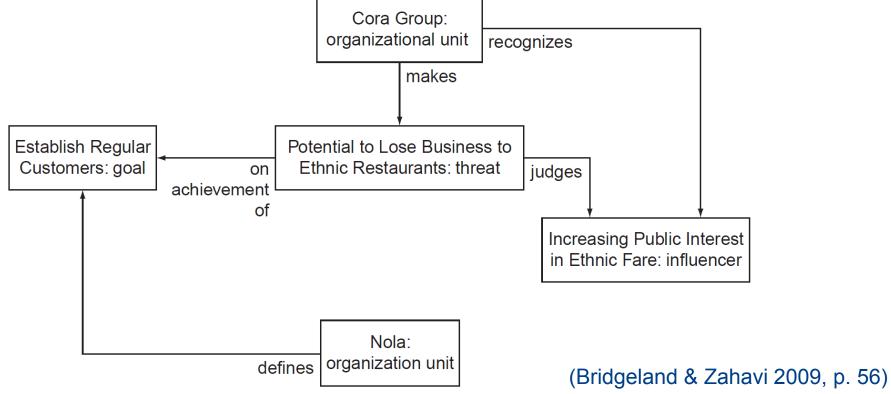






Threats

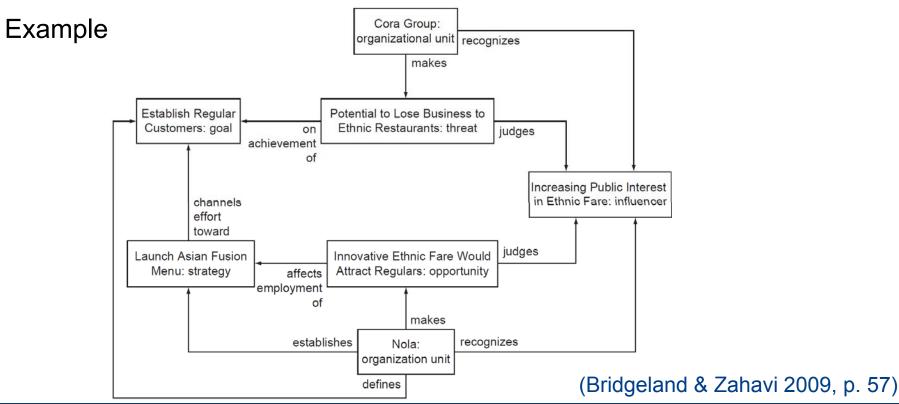
- Threats are just like opportunities except they are negative instead of positive
- A threat is modeled like an opportunity: a threat judges an influencer





Influencers judged as Threat and Opportunity

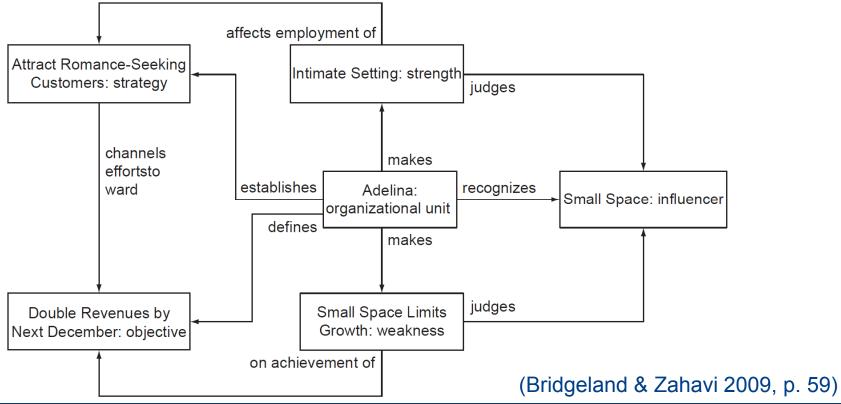
- It can happen that a single influencer is judged as both both positive and negative, i.e. be an opportunity and a threat
- A motivation model can make these differences of opinion explicit





Strengths and Weaknesses

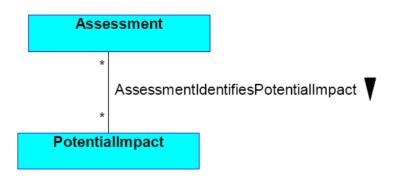
- Internal influencers can be judged as
 - ♦ strength if it helps the organisation to achieve its goals and strategies
 - weakness, if it inhibits the organizsation from such achievement





Potential Impact

- An Assessment records judgements about the impact (or potential for impact) of some Influencer on Ends and/or Means.
- An Assessment can
 - directly affect the achievement of an end or the employment of means
 - indirectly provide impetus on a Directive by identifying some Potential Impact that is significant to that Assessment.
- Potential Impacts are categorized as
 - ♦ Risk: negative impact indicating probability of loss
 - ♦ Potential Reward: positive impact indicating the probability of gain





Examples of Risks and Potential Reward

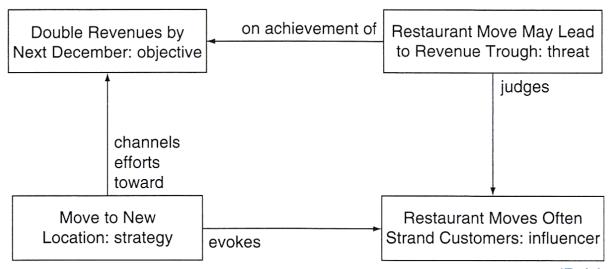
Assessment	Risk
Opportunity: Innovative Ethnic Fare would attract regulars	Friends of American food might look for alternative restaurants if offers on Ethnic Fares is too high
Strength: Intimate Setting	Regular customers might be lost if they get families

Assessment	Potential Reward
Threat: Smokers will be lost as customers Because of anti-smokers regulation	Non-smoking customers might prefer our restaurants in smoking in prohibited



Comparing Alternatives

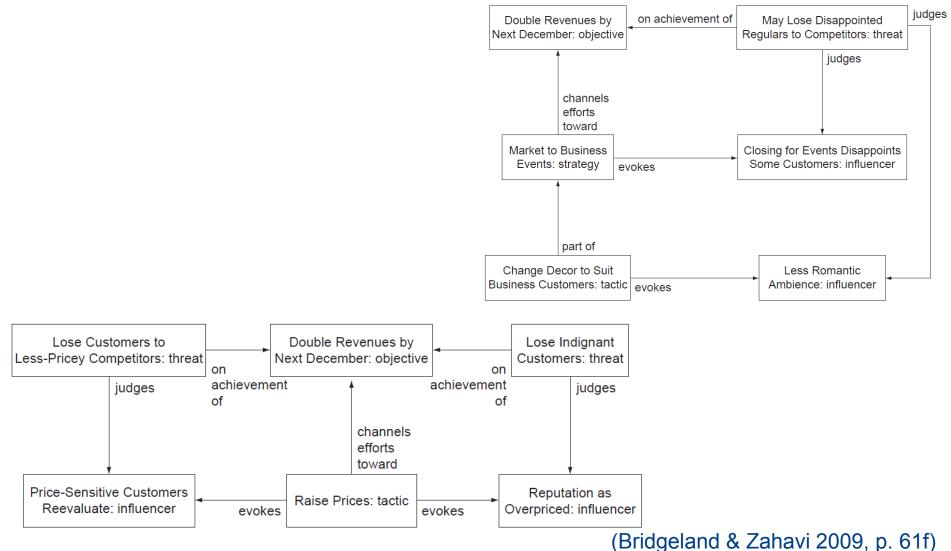
- Business Motivation Models can help in strategy creation by creating alternative models and then compare them
- Example: Management wants to increase Adalina's revenue
- Moving to a New Location would by a possible strategy:

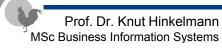






Two Other Strategies for the same Objective



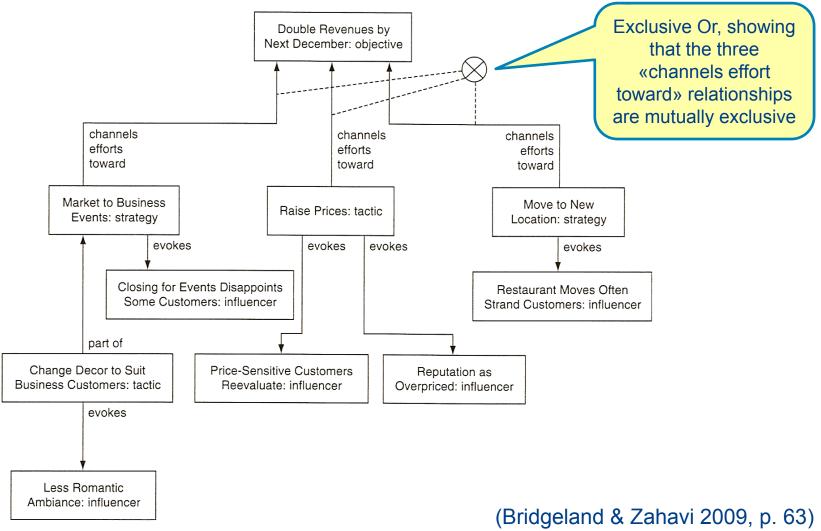


Business Motivation Model

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Three Alternative Strategies in one Diagram





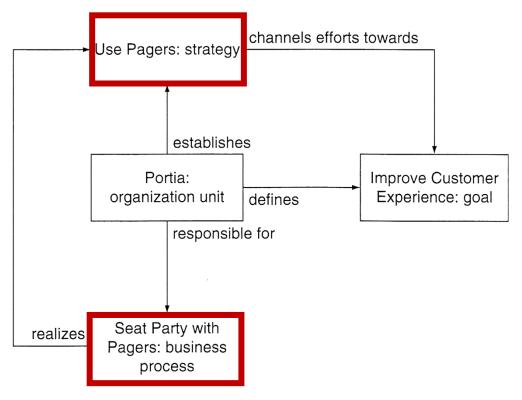
Placeholders

- Four concepts Asset, Organization Unit, Business Process, and Business Rule - have roles in the structure of the Business Motivation Model but actually are defined in other standards,
 - Organization Structure Metamodel (OSM),
 - Business Process Definition Metamodel (BPDM), and
 - ♦ Semantics of Business Vocabulary and Business Rules (SBVR).
- Business Rule is a core concept of the BMM (albeit that its definition is adopted from SBVR).
- Organization Unit and Business Process are placeholders for association with concepts in OSM and BPDM respectively.



Business Motivation and Business Processes

Business processes implement courses of action



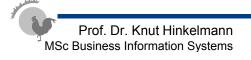


(Bridgeland & Zahavi 2009, p. 129)



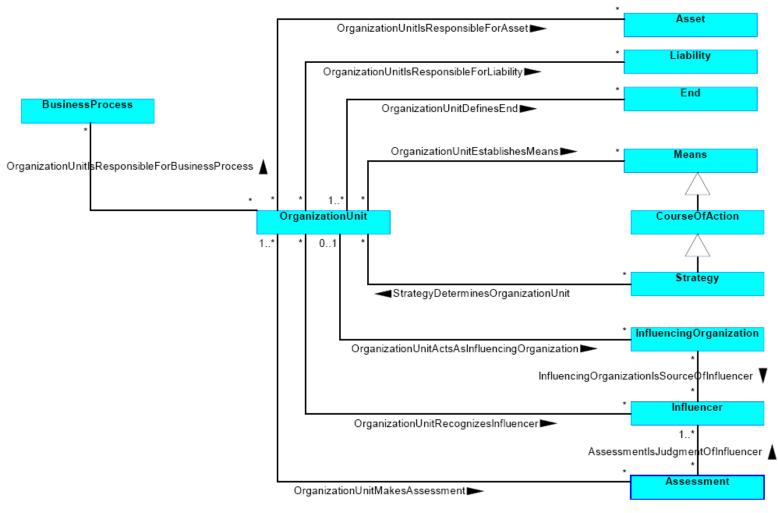
Organization Unit

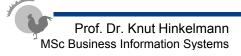
- For each activity and resources of an organization there should be a responsible party. These parties play key roles with respect to motivation.
- In BMM this is reflected by linking Organization Units to various elements
- Logical connections: Organization Unit ...
 - ... is responsible for Assets
 - ... is responsible for Liabilities
 - ... defines Ends
 - ... establishes Means
 - ... acts as Influencing Organization
 - ... recognizes Influencers
 - ... makes Assessments
 - ... is defined by Strategies
 - ... is responsible for Business Processes





Connections of Organization Unit





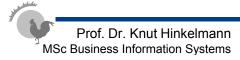


Business Process

A Business Process is

"A unit of work to accomplish a transformation of information or resources contributing to the business objective of a conventional or orchestrated process." [BPDM 'Activity']

- Business Process have relations to several elements of a BMM, in particular to Courses of Action, Business Rules and Business Policies.
 - ♦ Business Processes *realize* Courses of Action they provide detail of activities, plus sequencing, control, and synchronization.
 - ♦ Business Rules *guide* Business Processes they provide the basis for decisions that need to be made within Business Processes.
 - ♦ Business Processes are governed by Business Policies, which provide guidance on what Business Processes have to do and set limits on how Business Processes may undertake what they have to do.





Connections of Business Process

