

Ex-post evaluation

MPH_EKIS Ekonomika a řízení IT

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- Hodnocení informačních systémů
 - ▶ Časová osa - jde o kontinuální a zpětnovazební proces (pokud chceme srovnávat, musíme mít základnu!)
 - ▶ Teorie a praxe jsou od sebe zásadně vzdálené
 - ▶ V praxi se obvykle řeší hmotné finanční přínosy, funkčnost, spokojenost
- O čem to dneska bude
 - ▶ Vybrané přístupy pro ex-post hodnocení informačních technologií
 - ▶ User Acceptance
 - ▶ User Satisfaction
 - ▶ IS success

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3 Teoretické přístupy

- Technology Acceptance
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- IS success model
- Strategic alignment/fit
- Process based evaluation

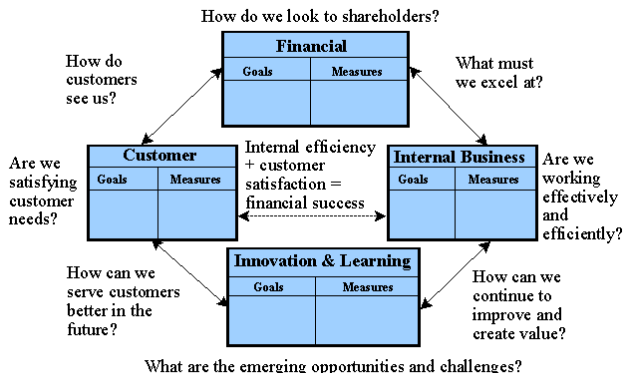
4 Srhnutí

Komerční přístupy

- (IT) Balanced Scorecard
- Activity-Based Costing
- SWOT analýza

- Není na nich nic špatného, ale nemusí vždy stačit

Relationships in the Balanced Scorecard*



* Adapted from Martinsons, Davison & Tse, Fig 1 p. 74. Original source Kaplan & Norton.

IT Balanced Scorecard

Figure 1 — Standard IT balanced scorecard

USER ORIENTATION How do users view the IT department?	BUSINESS CONTRIBUTION How does management view the IT department?
Mission to be the preferred supplier of information systems	Mission to obtain a reasonable business contribution of IT investments
Strategies <ul style="list-style-type: none">• preferred supplier of applications• preferred supplier of operations• vs. proposer of best solution, from whatever source• partnership with users• user satisfaction	Strategies <ul style="list-style-type: none">• control of IT expenses• business value of IT projects• provide new business capabilities
OPERATIONAL EXCELLENCE How effective and efficient are the IT processes?	FUTURE ORIENTATION How well is IT positioned to meet future needs?
Mission to deliver effective and efficient IT applications and services	Mission to develop opportunities to answer future challenges
Strategies <ul style="list-style-type: none">• efficient and effective developments• efficient and effective operations	Strategies <ul style="list-style-type: none">• training and education of IT staff• expertise of IT staff• research into emerging technologies• age of application portfolio

● Podrobnosti v PDF

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2 Současná situace

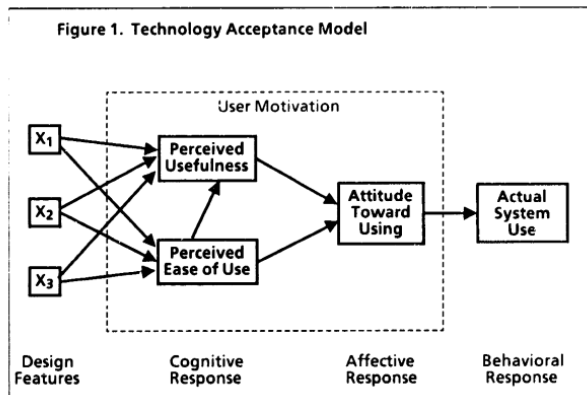
3 Teoretické přístupy

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4 Srhnutí

Technology Acceptance Model (TAM)

- Jedna z nejdůležitějších teorií v rámci podnikové informatiky
- Vytvořil ji Fred Davis (Davis, 1986)
- Existuje řada jiných acceptance teorií (viz Venkatesh et al., 2003)
 - ▶ V rámci předmětu ani nav. studia k tomu není prostor -> měl by podle Vás smysl předmět zaměřený na teorie v rámci podnikové informatiky?
- Hodnocení informačního systému je pozitivní (resp. IS má smysl), pokud se s ním ztotožní (přijmou ho, začnou používat) uživatelé
- Co nám user acceptance říká a přínosu IS?
- Nehodnotí se ani tak míra přínosu, ale spíše využití potenciálu, který technologie má (pokud nějaký má)



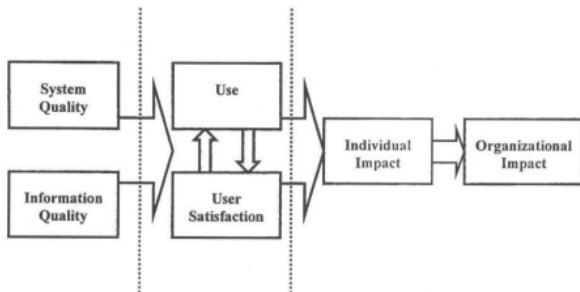
Spokojenost s IS

- Spokojený zaměstnanec je výkonný zaměstnanec
- Nejde jen o schopnost přijmout technologii, ale “mít ji rád”
- Příklad výzkumu (Tojib et al., 2008)

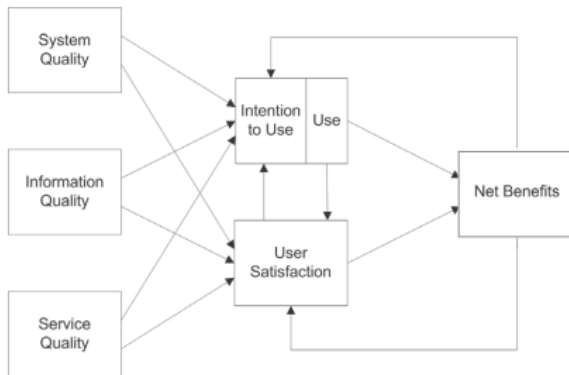
DeLone and McLean

- Završení (i když ne nutně časové) výzkumných snah o teorii úspěchu IS vyústilo v DeLone and McLean IS success model (DeLone and McLean, 1992)
- Autoři navrhli model na základě rozsáhlé rešerše a shrnutí předchozích výzkumů (hezký příklad významu LR v rámci výzkumu).
- O deset let později zrevidováno (DeLone and McLean, 2003)
- Model se neustále vyvíjí a je revidován (Petter et al., 2013)
- Nebo přizpůsobován konkrétním technologiím (Urbach et al., 2010)

D&M model 1



D&M model 2



D&M model - determinants

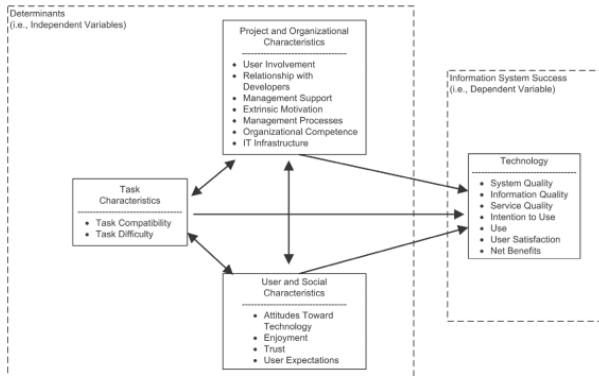


Figure 9. Determinants of IS Success

D&M model - testování a úprava

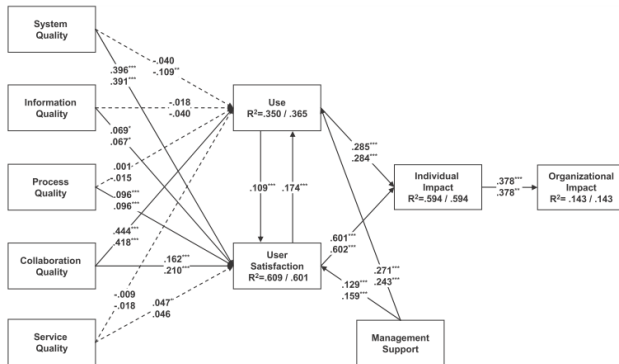


Fig. 2. Results of the structural analysis. * significant at $p < .050$; ** significant at $p < .010$; *** significant at $p < .001$.

Co model “obsahuje”?

- Jde o složené hodnocení velké řady proměnných -> viz otázky z Urbach
- Co se pomocí IS success dá měřit a jakou to má vypovídající hodnotu?

- Určit (spočítat) soulad mezi strategií a informačním systémem
- Může ukázat na nedostatky v IS a pomoci při budoucím rozhodování/plánování
- Není jednoduché realizovat, viz (McLaren et al., 2011)

Multilevel Strategic Fit

Table 1. Steps in Multilevel Strategic Fit Measurement Model	
Step	Application Details
(1) Identify the IS capabilities set to be measured according to the type of IS	Identified a relevant yet parsimonious set of IS capabilities for measuring the strategic fit of a firm's SCM that included operational efficiency, operational flexibility, planning, internal analysis, and external analysis (McLaren et al. 2004a).
(2) Measure the firm's current level of support for each IS capability using a realized IS capabilities instrument	Measured the realized level of support each case's SCM provided for each SCM capability using a purpose-built "Realized SCM Capabilities Assessment Instrument," which contained Likert-type items adapted from existing survey measures (see Appendix C3).
(3) Identify the firm's realized competitive strategy archetype using a realized competitive strategies instrument	Identified each case's Miles and Snow (1978) archetype (defender, analyzer, prospector, or reactor as outlined in Table 2) using an 11-dimension "Realized Competitive Strategy Instrument" adapted from Conant et al. (1990) (see Appendix C1).
(4) Determine the theoretically ideal level of support for each IS capability according to the firm's competitive strategy archetype	Determined the theoretically ideal level of support a firm's SCM should provide (low, medium, or high) for each SCM capability according to whether the firm was a defender, analyzer, or prospector.* The ideal levels were derived from an analysis of prior research (see Table 4).
(5) Calculate the overall (Type B) strategic fit of the firm's IS as the overall deviation between the firm's ideal and realized level of support for each IS capability	Calculated the overall strategic fit of each case's SCM as the Euclidean distance of the misfits between the realized and theoretically ideal level of support for each SCM Capability (see Table 5).
(6) Calculate the detailed (Type C) strategic fit of the firm's IS as the difference between the firm's ideal and realized level of support for each IS capability	Calculated the detailed strategic fit of each case's SCM by comparing the realized and theoretically ideal level of support for each SCM Capability individually (see Table 6).
(7) Check for corroboration of the overall and detailed assessment of strategic fit of the firm's IS using interviews and archival documents	Checked that the overall assessment of the strategic fit of each case's SCM from Step 5 was corroborated by examining the evidence from the interview transcripts, archival documents, and the respondents' subjective rating of the overall level of fit (see Table 7). Also checked that the individual capabilities that had the greatest and least strategic fit from the detailed assessment of strategic fit in Step 6 were corroborated by interview evidence from the case participants.

*Since reactors do not exhibit consistent strategic patterns, they are usually omitted from empirical studies. Thus, it is not possible to derive the theoretically ideal IS capabilities for a reactor from the existing literature.

Takto mohou vypadat výsledky

Table 7. Overall Strategic Fit of the SCM at Each Case Study

Case	Strategic Fit from Analysis of Interviews	QUALITATIVE MEASURES	QUANTITATIVE MEASURES		
		Sample Qualitative Evidence	Average Perceived Level of Strategic Fit from Questionnaire*	Strategic Fit from Euclidean Distance Calculation† (Step 5)	Strategic Fit from Euclidean Distance Ignoring Greater than Ideal Misfits†
A1	High	<ul style="list-style-type: none"> • <i>"[The IS are] enabling us to reduce costs which is one of the main drivers for us. So it fits quite well with our strategic needs."</i> 	High (4.0 out of 5)	High (0.9)	High (0.7)
A2	Low	<ul style="list-style-type: none"> • Requests for better systems for doing market scanning and competitive analysis. • Some frustration with poorly integrated custom developed applications. 	Low-Medium (2.5 out of 5)	Low (2.2)	Medium (1.9)
B	Low	<ul style="list-style-type: none"> • Ongoing projects to integrate multiple ERP and APS systems and develop more collaborative planning capabilities. • Frustration with heavy usage of standalone spreadsheets and databases. 	Low-Medium (2.5 out of 5)	Low (2.7)	Low (2.7)
C	Low	<ul style="list-style-type: none"> • <i>"The [IS] is a bit of a hindrance when you consider all the time taken to set up new customers."</i> • <i>"We really need a more flexible system in place."</i> 	Low (2.0 out of 5)	Low (2.2)	Low (2.1)
D	Medium	<ul style="list-style-type: none"> • <i>"I think they're pretty good."</i> • <i>"I think it's pretty efficient."</i> • <i>"I'm sure our contract manufacturers have everything totally integrated. But we don't need it as much."</i> 	Medium (3.0 out of 5)	Medium (1.3)	Medium (1.3)
E	Medium	<ul style="list-style-type: none"> • <i>"The systems meet the minimum needs ... improvements would save time and money."</i> • <i>"These systems are great at gathering the information but there is very little intelligent use of the information gathered."</i> 	Medium (3.0 out of 5)	Low (2.1)	Medium (1.6)

- Sice výzkumy jsou zaměřeny spíše na ex-ante hodnocení, lze samozřejmě využít i v rámci ex-post
 - ▶ Viz zpětná vazba ze začátku přednášky
- Peacock and Tanniru (2005) využili rozdělení nákladů na jednotlivé činnosti, které IS ovlivní
 - ▶ Lze srovnat situaci před implementací a pak po ní a vypočítat úsporu nákladů
 - ▶ Dobrý přístup na náklady (jejich snižování), ale horší je to s přínosy
- Raschke and Sen (2013) se zaměřili na vztah mezi implementací IS a eliminací činností, které nepřinášejí žádnou přidanou hodnotu
- Mans et al. (2013) využili process mining a simulace k odhadu hodnoty přínosu IS
 - ▶ V rámci uvaluation bez jakékoli justification fáze je to využitelné pro porovnání AS-WAS modelu a AS-IS modelu (ale předpokládá to nějaká data o AS-WAS modelu)

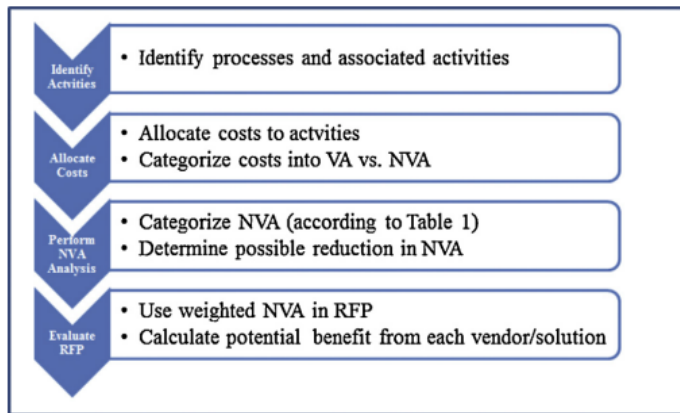


Fig. 1. ABM based methodology for measuring IT-enabled process improvement.

Process mining

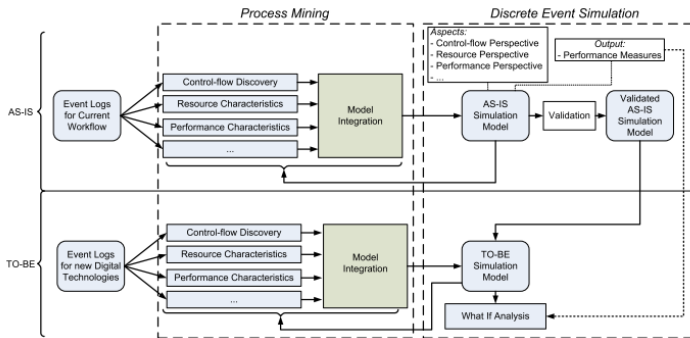


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- Řízení hodnoty IS se neobejde bez jejího měření a vyhodnocování
- Ex-ante a ex-post evaluation jsou (by měly) mezi sebou těsně provázány
- Zlaté pravidlo hodnocení IS - něco je vždycky lepší než nic, i když to není zrovna podle teorie
- Další pravidlo - je nutné rozumět přínosu a nákladům hodnocení
-> i když by se IS obecně hodnotit měly, někdy se to prostě nevyplatí

- Příprava:
 - ▶ Vyberte si jeden přístup (rovnoměrně)
 - ★ IS success
 - ★ Strategic alignment/fit
 - ★ Procesní přístup
 - ▶ Najděte alespoň dva související zdroje, které nejsou uvedené v přednášce
 - ▶ A kriticky daný přístup analyzujte
- Test bude příští týden v pátek a bude pokrývat IS business value
- V pondělí by měl přijít Jirka Kolář (pokud ne, něco vymyslím)
- Na předposlední týden domlouvám někoho ze Skypickeru ohledně business modelů a strategického řízení IT startupu

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