

Matching on the Market for Job Training

How Managers Search for and Select an External Training Provider

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Content

1 Purpose and Motivation

2 Research outline

3 Theoretical Background

Business Transactions on Markets with Uncertainties

4 Data and Survey Design

5 Preliminary Analysis: Effect of Embeddedness on Satisfaction

6 Conclusions

Purpose and motivation

- ▶ The purpose of our study is to find out how managers search for and select an external job training provider and – in a second step – to investigate on how effective the different strategies employed are.
- ▶ Our motivation in exploring the field of job training “procurement” is the supposition, that buyers behave differently on the market for job training due to a combination of several properties inherent in the special “good” of job training:
 - > (1) The quality of job training services is hardly assessable before the training has taken place. Job training is therefore an experience good (Nelson 1970) with only limited search-good properties.
 - > (2) In addition, the quality of job training services is often hardly assessable even after the training has taken place. Job training has therefore strong credence good (e.g. Emons 1997) properties.

Purpose and motivation

- ▶ We want to explore how well “standard” approaches can explain the behaviour of managers when procuring an external training provider for their employees and how these approaches can be enhanced to capture better the empirical findings on the market for job training.
- ▶ By doing this we want to contribute to a better understanding of the search and selection process of complex services. Furthermore by exploring job training in organizations we want to shed light on potentially suboptimal outcomes and misallocations in an area with growing importance in the accumulation of human capital.

Research Outline

- ▶ We study the purchase of job trainings (“Weiterbildungen, Weiterbildungsmaßnahmen”) of firms and other organizations by taking in the perspective of one randomly selected department manager (for organizations with 50 employees and more) or of the CEO (for organizations with less than 50 employees).
- ▶ We explore the purchasing process (1) at the transaction level: one job training of one or several employees of the respective department manager.
- ▶ Beside the single transaction we take (2) a closer look at the relationship between the buying organization (and its respective agent the manager) and the training provider.

Training as an experience and credence good

- ▶ The quality of job training services is hardly assessable *before* the training has taken place. → Job training is therefore an experience good (Nelson 1970)
- ▶ In addition, the quality of job training services is often hardly assessable even *after* the training has taken place. Job training has therefore strong → credence good (e.g. Emons 1997) properties. The reason for the difficulty to assess the quality of a job training even after its purchase is that
 - > (1) there are often no easily measurable objective process quality criterias for job training (beside participants satisfaction), and the effect of a job training on productivity is usually fully realized only in the long term and difficult to discern from other influence factors,
 - > (2) even if an effect of a training can be measured, the specific contribution of the provider to that result is difficult to estimate. This is due to the fact, that the outcome of job training (human capital and as a consequence a productivity increase) is “produced” jointly by the training provider and the training participants (see for instance Gallouj 1997)

Institutional Forces, Different Motivations & Job Training as Low Risk Transaction

Beside the just mentioned properties, which apply to many services, there are some particular properties more specific to job training:

- ▶ Institutional forces: In many cases the specific need for a certain training measure is not clearly visible or objectively to determine (at least not for non-experts...), which makes the “need” for job training subject to institutional forces (Scott 1994, Scott und Meyer 1994).
- ▶ Employers motivation for job training: From an employer’s perspective, job training is motivated out of different reasons: (1) It can provide the employees with human capital directly relevant to their actual job. Job training leads then more or less straight to improvements in work performance. (2) Job training can be seen as remuneration or gift to employees in the sense of social exchange and must not necessarily be coupled to actual needs of production in this case (Balkin und Richebe 2007). (3) Job training can be mandatory because of legal, organizational or professional regulations. In the two latter cases quality should be of less concern to the employer.
- ▶ Low transaction risk: Compared to other business transactions (as for instance IT-Soft- or Hardware, see Batenburg, Raub und Snijders 2000, Kropp, Seyde und Voss 2001) job training is in general a rather small transaction with only a limited risk. Therefore the mentioned “trial-and-error”-search-strategy could be quite a viable and cost effective solution to the problem of selecting a suitable training provider.

Consequences for the Market for Job Training (and Some Descriptive Evidence)

- ▶ Perceived transaction uncertainty by the buying organization.
(55% of the respondents agree, that it's difficult to assess the quality of job training measures, 26% agree, that it is difficult to find a suitable training provider)
- ▶ Bad experiences with the provision of job trainings in the past.
(28% of the respondents report, they have had "bad experiences" with external training providers in the past)
- ▶ Limitations in Search & Deliberation Possibilities due to the difficulties in assessing job training ex ante → no search or very limited search investments.
(Descriptive results from our survey support this argument: In the run up of engaging a provider for the first time (first "match") only 57% of the respondents report having "actively searched" for a suitable training provider.)
- ▶ Long-lasting business relationships between buying organizations and training provider.
(In approx. three quarters of all transactions the last external job training was carried out by a provider with whom a business relation existed already before. Of these existing relations, about half were initiated 5 years or more back.)
- ▶ Possible negative effects: suboptimal matches between buying organizations and training providers. Suboptimal training quality and lower investments into job training than efficient?

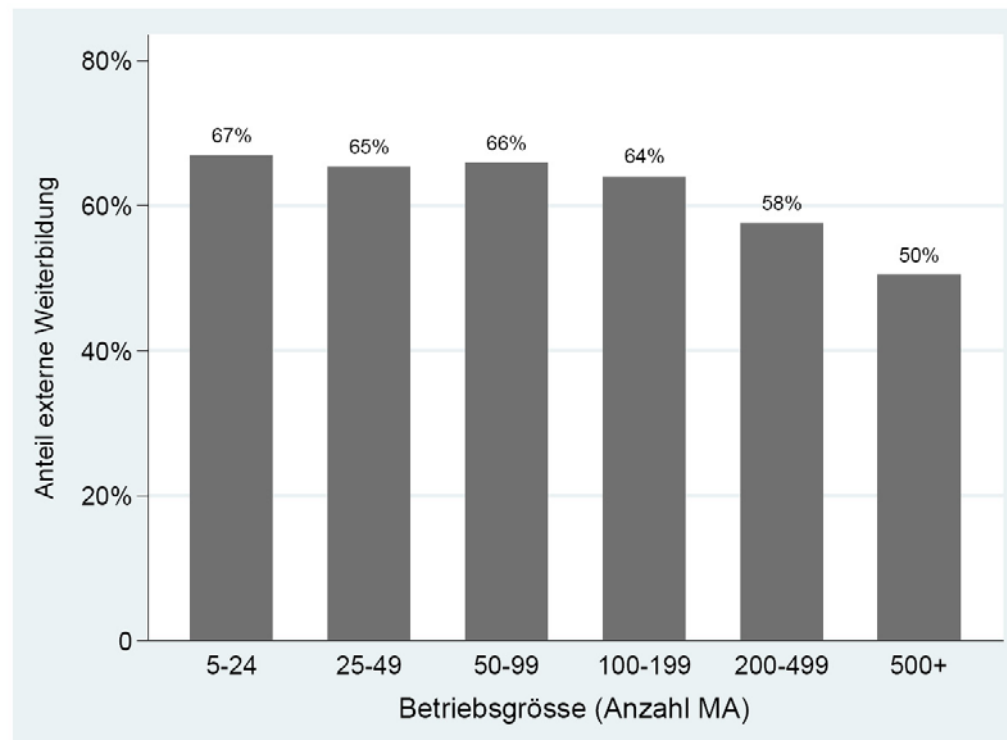
Theoretical Background: Business Transactions on Markets with Uncertainties

- ▶ The provision of external job training services can be conceptualized as a transaction on a market with a high degree of uncertainty. As a consequence the single transaction – one job training measure – can be analyzed as a potential trust problem between the buying organization (and its agent) and the training provider.
 - > Akerlof (1970) in his paper on the market for used cars showed, how a high level of uncertainty on a market can lead to suboptimal outcomes or even to a complete disappearance of such a market.
 - > Of course, in reality we see many markets still functioning despite high uncertainty in transactions. This holds also for the market for job training.
 - > That raises the question, how organizations react when faced with transactions which involve a high level of uncertainty and information asymmetry? Or in other terms, when a potential “trust problem” arises?
 - > Several theoretical „solutions“ have been proposed: Internalizing the problematic transactions and institutional or social “embeddedness” (Granovetter 1985).

Solutions: Internalizing the Problematic Transaction

- > Organizations can internalize the problematic transactions. This in-sourcing is conditioned by the uncertainty involved, the specificity and the frequency of the transaction – and by the available resources of the organization (Williamson 1985). Therefore this is rarely a viable solution for specialized training measures which require a highly skilled training staff and for small and medium sized organizations in general.

Figure 1: Share of external job trainings among all job trainings of the last 12 months by organization size (number of employees in fulltime equivalent)



Anmerkungen: Grundgesamtheit sind alle Betriebe/Abteilungen, welche in den letzten 12 Monaten mindestens 1 Weiterbildungs-massnahme durchführten. Die Fallzahl beträgt total N=970. Für Betrieb mit 5-24 Mitarbeitenden Vollzeitäquivalent N=108, 25-49 N=129, 50-99 N=176, 100-199 N=176, 200-499 N= 174, 500+ N=207.

Solutions: Institutional and Social „Embeddedness“

- ▶ If job training isn't internalized an organization has to purchase it on the market and needs to do business with an external training provider. In this case too, there are several solutions to the problem of transaction uncertainty and possible opportunism problems:
 - > One institutional “safeguard” in the context of job training are certificates issued by quality control institutions, which guarantee that a provider fulfils certain standards. In the case of job training there are other mechanisms, which have a similar function: the issuing of officially recognized diplomas for participants.
 - > Another solution is to rely on “network forms of organization” Powell 1991, Podolny 1994: Organizations try to build up long-lasting exchange relations to secure problematic transactions. They restrict their choice to one single or only a few providers with whom they do business repeatedly. The resulting temporal or dyadic embeddedness has two effects (Buskens und Raub 2004):
 - (1) Past transactions with a particular training provider serve as a source of information about the provider.
 - (2) (Expected) future transactions reduce the risk of opportunism by the provider. They outweigh the gains from short sighted opportunistic behaviour or – positively formulated – increase the return of the providers' investments into the quality of a job training.

The Initiation of Exchange Relations

How are such longlasting exchange relations initiated? Here we address the question what strategies organizations employ when doing business with a provider for the first time. For the first transaction organizations can

- > (1) employ a “trial-and-error”-search-strategy or
- > (2) they rely (perhaps in combination with the latter) on information about the provider from trustful sources. These sources are usually existing customers of the provider. That’s where network embeddedness comes in. Network embeddedness serves as an information resource about the quality of the service provider. In addition network embeddedness increases
- > (3) the control and sanctioning possibilities of the purchasing organization.

Point (2) and (3) can be subsumed under “structural” or “network embeddedness” (Buskens und Raub 2004).

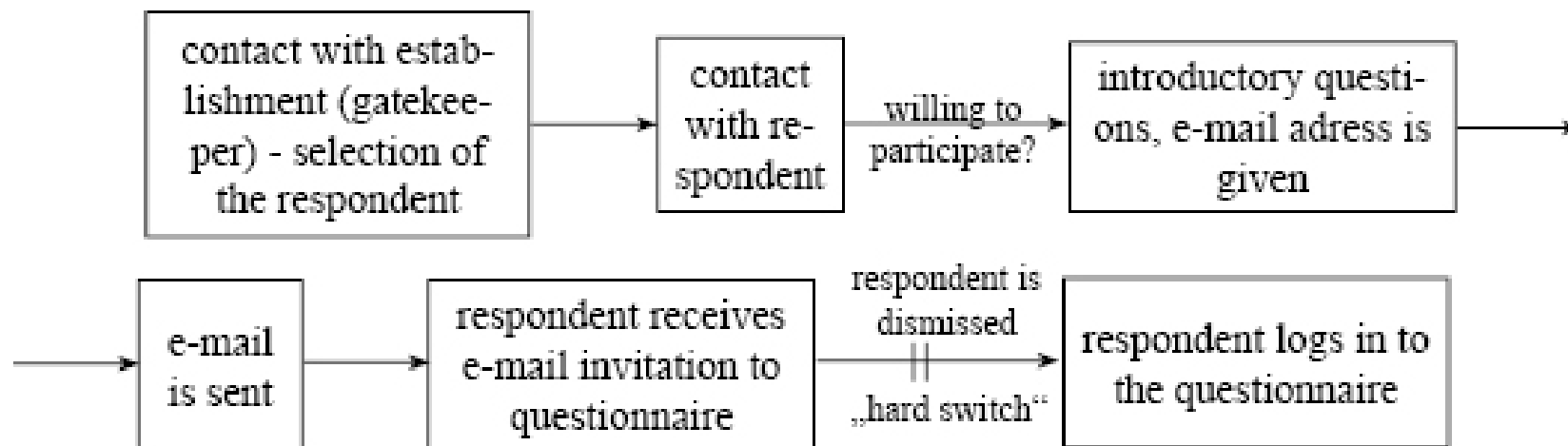
- ▶ Network embeddedness is especially important in the *initiation* of a business relationship. Once an ongoing relationship has been established network embeddedness is going to be “replaced” or “covered” by dyadic embeddedness and the effect of network embeddedness should diminish.

Data and Survey Design

- ▶ We use data from a survey on “Job Training”, which we carried out from June to October 2008. In the course of the survey we questioned department managers (“Abteilungsleiter”) and CEO’s (“Geschäftsleiter”) of 1’326 Swiss firms and organizations...
 - > about the extent and organization of job training in their organization/ organizational unit in general with a special emphasis on the use of external training providers,
 - > about their experiences with the last job training of their employees with an external training provider,
 - > about the initiation of the relationship with the provider of that training (the first “match”), especially about search and deliberation strategies employed.

A „Switch Mode“-Survey

- ▶ We contacted establishments using CATI, selected the respondent, asked them to participate in our survey and posed some questions to personalize and tailor the online questionnaire we sent them subsequently. As a positive side effect of these questions people got already involved with us and with the topic surveyed. While still on the phone or shortly thereafter people received an e-Mail with a login-link to the online questionnaire. Respondents had then to “switch” from the phone to the online questionnaire.



Advantages of a “Switch Mode”-Strategy

Our procedure combines several advantages. The first contact via telephone allows...

- > the use of an excellent sampling frame which makes a representative sampling possible,
- > the controlled criterion-based selection of an appropriate informant by the CATI-interviewees,
- > to increase the willingness to participate in the survey by establishing a personal relationship between interviewee and respondent and by adopting individual refusal conversion if necessary.

The use of an online questionnaire on the other side...

- > leads to cost savings,
- > improves response quality for certain questions, where a visual representation of the questions and answers is helpful (e.g. rating questions) and
- > makes it possible to provide respondents with a relatively short and individually tailored questionnaire by using complex filters.
- > allows respondents to answer whenever they've got time available and to stop and resume when necessary. Especially important in a work environment and when surveying managers.

Main drawback compared to a full CATI-Survey: Limited possibilities to reduce item missings and inconsistent answering.

Response

Figure 3: Response Rate 1 by Organization Size (Minimum response rate according to AAPOR 2006)

Size by Number of Employees (Fulltime Equivalent)	nonresponse	response	Total
5-24.99	255 60.71	165 39.29	420 100.00
25-49.99	237 55.90	187 44.10	424 100.00
50-99.99	190 44.39	238 55.61	428 100.00
100-199.99	187 44.42	234 55.58	421 100.00
200-499.99	188 43.72	242 56.28	430 100.00
500+	155 37.35	260 62.65	415 100.00
Total	1,212 47.75	1,326 52.25	2,538 100.00

Figure 5: Response - Details

	Freq.	Percent	Cum.
Response			
complete questionnaire	1,326	51.68	51.68
Nonresponse			
nr: refusal selected respondent	233	9.08	60.76
nr: refusal organization	309	12.04	72.80
nr: refusal organization - more than once in sample	20	0.78	73.58
nr: break-off - quest. started	221	8.61	82.19
nr: break-off - quest. not started	191	7.44	89.63
nr: break-off - has no e-mail	15	0.58	90.22
nr: selected respondent never available	47	1.83	92.05
nr: selection of respondent never possible	139	5.42	97.47
nr: techn. failure - wrong questionnaire	12	0.47	97.93
Unknown eligibility			
ue: no call attempted	1	0.04	97.97
ue: no answer	5	0.19	98.17
ue: no valid number could be figured out	19	0.74	98.91
Not eligible			
ne: out of sample	1	0.04	98.95
ne: no organization	1	0.04	98.99
ne: no suitable respondent	5	0.19	99.18
ne: ceased to exist	21	0.82	100.00
Total	2,566	100.00	

Preliminary Analysis: Effect of Embeddedness on Satisfaction

Following the arguments mentioned in the theoretical part of the presentation, we will test several hypotheses on the effect of transaction characteristics and embeddedness on the outcome of a transaction, which we measure as satisfaction with a job training. Satisfaction serves as a proxy for the overall utility received through a transaction. Similar investigations on the effect of embeddedness on transaction outcome have been conducted in the case of consumer products (see DiMaggio und Louch 1998), the renting of an appartement (Abraham und Kropp 2000) or the purchase of home remodeling services (Zuckerman 2005).

- ▶ We include first some variables derived from TCE into our model: size of the transaction, specificity, knowledge about the topic of a certain job training and the participation of the focal actor in the training (the latter two offer better control opportunities).

▶ Institutional Embeddedness

H1: The institutional embeddedness of a job training (when an official diploma is issued to the participants) yields to a better outcome, hence to more satisfaction with a job training.

Preliminary Analysis: Effect of Embeddedness on Satisfaction

► Dyadic Embeddedness

H2: Past experience with a provider yields to a better outcome, hence to more satisfaction with a job training.

H3a: Multiplexity, the fact that a training provider supplies a focal organization also with other services than just training (as a product supplier, consultant, etc.), yields to a better outcome, hence to more satisfaction with a job training. *Multiplexity can be understood as a special case of dyadic embeddedness.*

► Network Embeddedness

H4a: The acquaintance of the buying agent with other customers of the provider yields to a better outcome, hence to more satisfaction with a job training.

► Interactions

H3b: The effect of multiplexity will sharply decline if it is combined with dyadic (temporal) embeddedness.

H4b: The effect of network embeddedness will sharply decline if it is combined with dyadic (temporal) embeddedness.

► Search

H5a: Search investments yield to a better outcome, hence to more satisfaction with job training. (?)

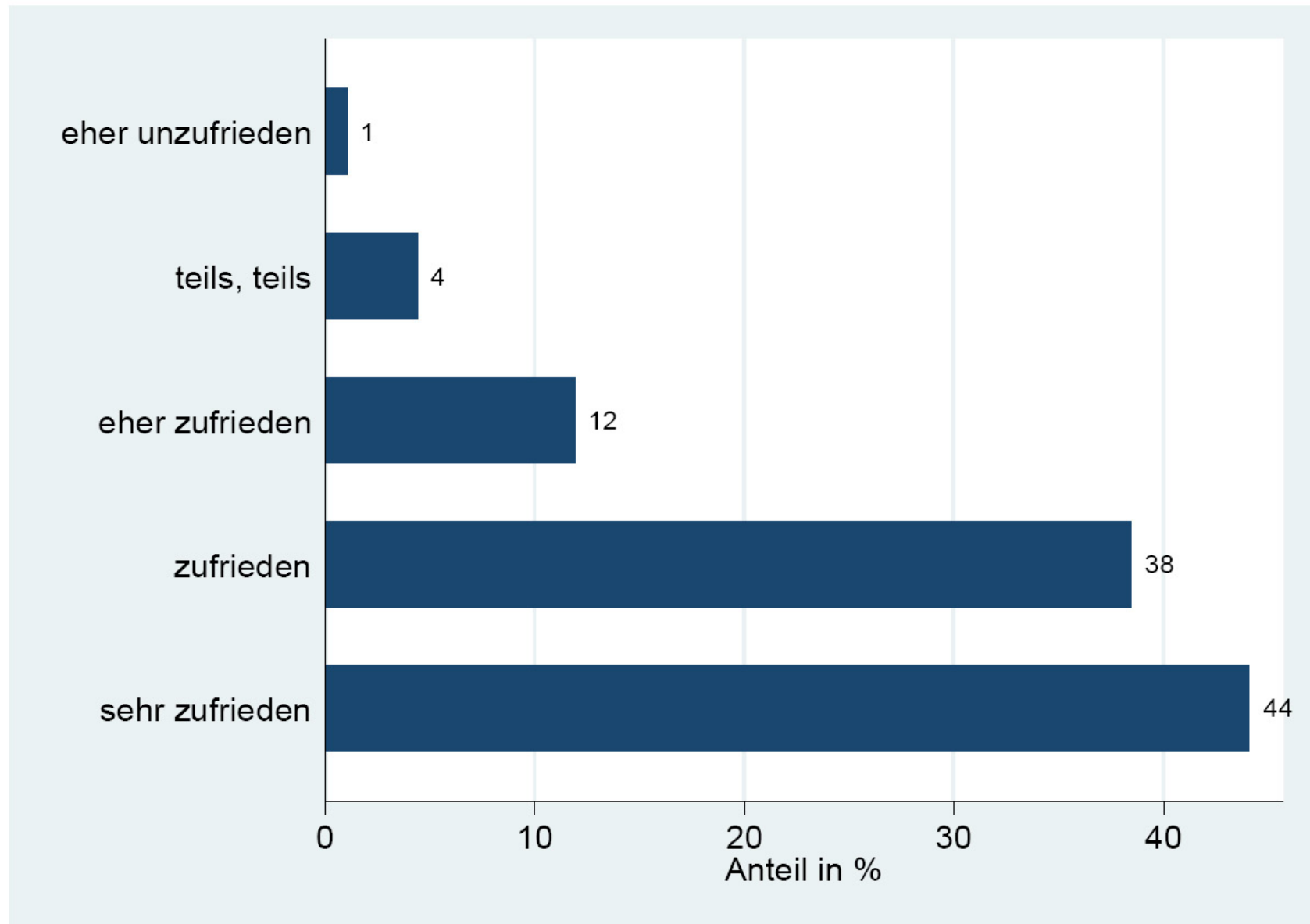
H5b: This should be especially the case when contracting a provider for the first time. (?)

Table 1: Descriptive Statistics

Variable name	Description	Hyp. effect	Mean	St. dev.	Min.	Max.
Dependent Variable	Very satisfied with training (dummy)		0.441	0.497	0	1
Price of training (SFr.)	Price of training in SFr. (log)	?	7.65	2.41	0	12.6
Price of training (free)	Training was for free (dummy)	?	0.0595	0.237	0	1
Invested time into training	Duration of training in h multiplied by number of participants (log)	?	2.72	1.33	0.405	6.97
Specificity	Was the training especially designed for the byer? (dummy)	?	0.345	0.476	0	1
Knowledge of focal actor	Knowledge about topic of training (five point scale)	+	3.98	0.964	1	5
Participation of focal actor	Department manager/CEO participated personally in the training (dummy)	+	0.441	0.497	0	1
Diploma	Received participants an officially recognized diploma? (dummy)	+	0.227	0.42	0	1
Past	Provider delivered job training before (dummy)	+	0.64	0.48	0	1
Multiplexity	Provider delivers other services as well (dummy)	+	0.344	0.475	0	1
Multiplexity*Past		-				
Network	Buyer knows several or many other customers of provider (dummy)	+	0.595	0.491	0	1
Network*Past		-				
Search	There has been a search before engaging the provider (dummy)	? (+)	0.357	0.48	0	1
Search*Past		? (-)				
Organization size	Size of organization in number of employees (log)	(+)	4.64	1.44	1.1	10

N=655

Figure 4: Satisfaction with last job training



Anmerkungen: Die genaue Fragestellung lautete: „Wie unzufrieden oder zufrieden sind Sie insgesamt mit dieser letzten Weiterbildungsmassnahme [Name der WB]?““. Die Fallzahl beträgt N=655.

Logistic regression of whether “very satisfied” with job training

	Model_2		Model_3		Model_4	
	exp(b)	SE	exp(b)	SE	exp(b)	SE
Price (log)	1.203*	(0.088)	1.213**	(0.089)	1.214**	(0.090)
Price (free)(d)	5.142*	(3.409)	5.676**	(3.789)	5.618**	(3.760)
Invested time(log)	0.963	(0.079)	0.955	(0.079)	0.967	(0.081)
Specifity (d)	1.790**	(0.329)	1.767**	(0.327)	1.742**	(0.325)
Knowledge (5-point-scale)	1.281**	(0.119)	1.301**	(0.121)	1.302**	(0.122)
Partizipation of focal actor (d)	1.304	(0.228)	1.281	(0.225)	1.274	(0.225)
Diploma (d)	1.623*	(0.348)	1.625*	(0.350)	1.598*	(0.346)
Past (d)	1.133	(0.206)	1.859*	(0.515)	2.236*	(0.736)
Multiplexity (d)	0.852	(0.156)	1.158	(0.383)	1.209	(0.410)
Multiplexity * Past			0.627	(0.245)	0.582	(0.232)
Network embeddedness (d)	0.905	(0.164)	1.349	(0.386)	1.328	(0.384)
Network embeddedness * Past			0.501+	(0.182)	0.507+	(0.185)
Search (d)					1.167	(0.336)
Search * Past					0.634	(0.236)
Organization size (log nr. of employees)	1.028	(0.061)	1.030	(0.061)	1.032	(0.061)
Constant	0.042***	(0.027)	0.030***	(0.020)	0.026***	(0.018)
Pseudo R2 (McFadden)	0.054		0.060		0.062	

Notes: N=655. +p<0.1, * p<0.05, **p<0.01, ***p<0.001 (two-tailed)

Conclusions

- ▶ Our preliminary results show some evidence for effects of embeddedness in business relationships on the outcome of a transaction, measured as satisfaction. There is
 - > (1) a positive effect for job trainings which are completed with an official diploma for the participants, which we take as an indicator for institutional embeddedness
 - > (2) a positive effect for training measures embedded in a relation with a provider with whom has been dealt in the past, which can be interpreted as an effect of dyadic embeddedness (learning and selection effect). Multiplexity shows no effect.
 - > (3) The effect for network embeddedness is very much less clear. There is no effect when considering transactions embedded in an existing business relationship together with transactions with a new provider.
 - > (4) However, when considering only new transactions, the effect points into the hypothesized direction but is still not significant. Only the interaction between network embeddedness and dyadic embeddedness is significant at the 10%-level. That means, that the effect of network embeddedness diminishes when combined with dyadic embeddedness. In an ongoing business relationship network embeddedness has clearly no positive effect on the satisfaction with a job training.
 - > (5) The undertaking of an actual “search” and/or deliberation procedure doesn’t seem to lead to a better outcome. This holds also in the case when a provider is engaged for the first time.
- ▶ Our results show, that great care is needed in modelling embeddedness effects, especially when considering multiple kinds of embeddedness at the same time. They seem highly interrelated and influence each other in a significant way.

Further Questions/Research Agenda

- ▶ In future analysis we will consider other kinds of “embeddedness” as for instance the existence of personal contacts between the purchasing manager and the training provider prior to the first engagement.
- ▶ In addition we want to include aspects of the decision making process. To what extent where beside our focal actor and other actors involved in the search and selection process and in what way does this influence the satisfaction with the outcome?
- ▶ Further we will put stronger emphasis on the question how the quality of job trainings is actually measured and perceived by actors. The question arises, how much satisfaction with a service is influenced by the relationship between the buying organization(and its agent) and the training provider (e.g. when utility is derived from the relationship itself).