



## **QUANTIFIABILITY OF THE BENEFITS OF ELECTRONIC PRODUCT TRAINING**

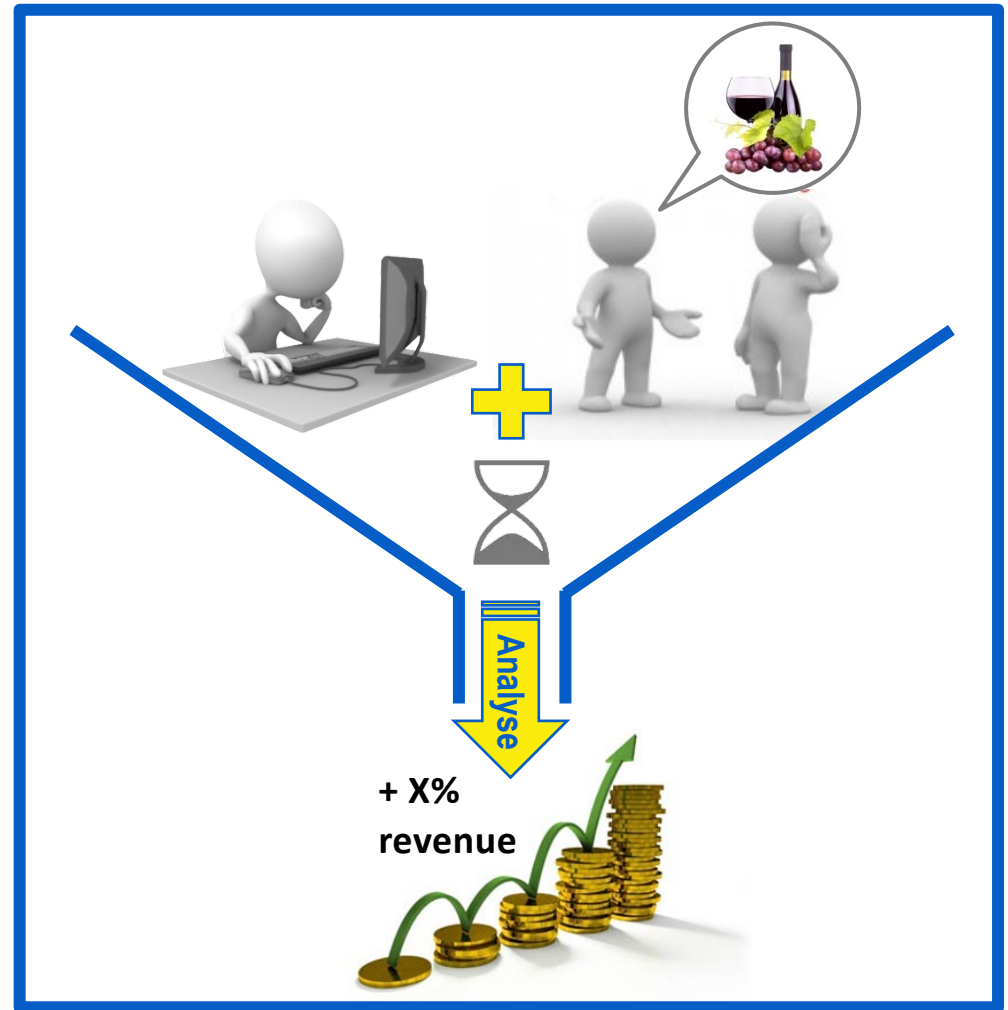
Prof. Dr.-Ing. Mathias Groß



## OBJECTIVE OF THE PROJECT



The aim of the joint research project is to develop and apply a methodological concept for quantifying the benefits of electronic continuing education measures.





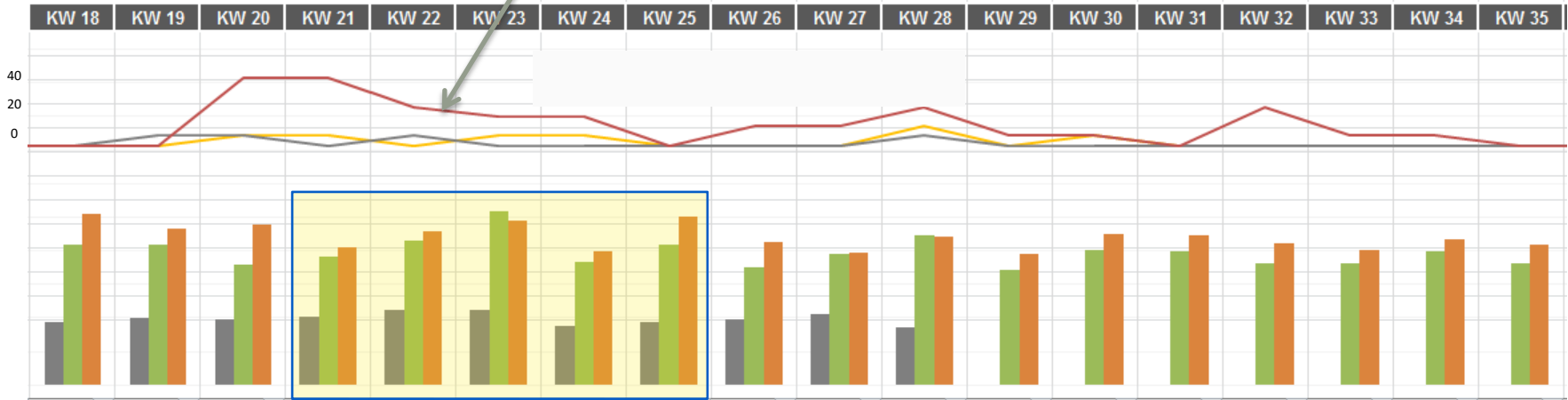
## Preserved datasets

- Historical LMS data
- Sales data
- Advertising data in the form of handouts, update weekly
- Weekly LMS usage evaluation
- 1st update sales data
- Weather data
- Individual advertising measures of a store
- Detailed LMS usage evaluation
- 2nd update sales data
- Update of the detailed LMS usage evaluation



## Impact of E-Learning

Use of e-learning courses:  
red -> "European wines"  
grey -> "German Wines"  
yellow -> "Wine Basis"



Wine Sales in 3 testmarkets



No direct influence of e-learning on sales discernible. A slight trend after the start of the "European Wines" course use can be observed, but this cannot be attributed to the increased use.



# Statistical regression

## AUSGABE: ZUSAMMENFASSUNG

Regressions-Statistik	
Multipler Korrelationskoeffizient	0,6742762
Bestimmtheitsmaß	0,4546484
Adjustiertes Bestimmtheitsmaß	0,4063261
Standardfehler	670,269666
Beobachtungen	87



The coefficient of determination states: Only 45.46 % of the sales variances can be explained by the independent (explanatory) variables. Further variables should be included.

## ANOVA

	Freiheitsgrade	Quadratsummen	Quadratsummen	Prüfgröße (F)	F krit
Regression	7	29588659,5	4226951,36	9,40866746	1,9593E-08
Residue	79	35491652,6	449261,426		
Gesamt	86	65080312,1			

	Koeffizienten	Standardfehler	t-Statistik	P-Wert	Untere 95%	Obere 95%	Untere 95,0%	Obere 95,0%
Schnittpunkt	8391,00866	144,10512	58,2283866	1,1807E-66	8104,17459	8677,84273	8104,17459	8677,84273
Temperatur	11,6979377	12,0817274	0,96823388	0,33588253	-12,3501391	35,7460145	-12,3501391	35,7460145
Regen	40,6158097	36,0080319	1,12796528	0,26274804	-31,056385	112,288004	-31,056385	112,288004
Ostern	2841,92428	508,417353	5,58974831	3,1328E-07	189,94485	3853,90371	1829,94485	3853,90371
Weihnachten	2702,95785	485,218215	5,5706016	3,39E-07	1737,15516	3668,76055	1737,15516	3668,76055
Schulferien	-240,661011	182,538344	-1,31841347	0,19227458	-603,994497	122,672474	-603,994497	122,672474
E-Learning	-310,761911	217,01748	-1,43196719	0,15609798	-742,724399	121,200576	-742,724399	121,200576
Aktion Bergmann	196,497144	314,716841	0,62436171	0,53418906	-429,931058	822,925346	-429,931058	822,925346



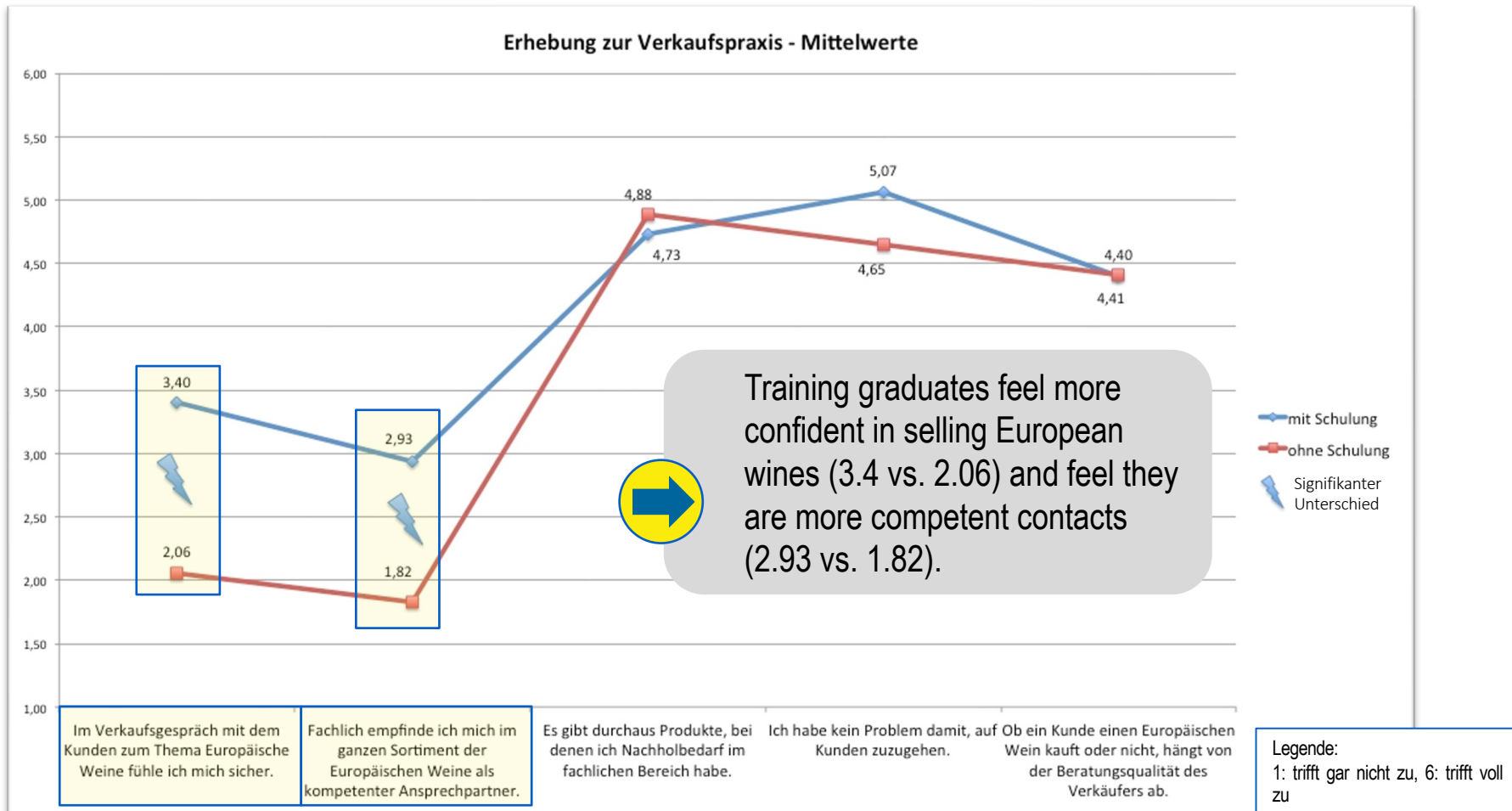
The independent (explanatory) variables (temperature etc.) influence the dependent variable (sales per week).-> If the temperature rises by 1° C, the weekly sales increase by 11,69€.  
-> If it is Easter (Christmas), the turnover increases by 2841,92€ (2702,96€).



The P-value indicates whether the variables have a significant influence. Only if  $p < 0.05$  can we say with a 5% probability of error that the variable actually has a significant influence on sales. **Only Easter and Christmas have this influence.**



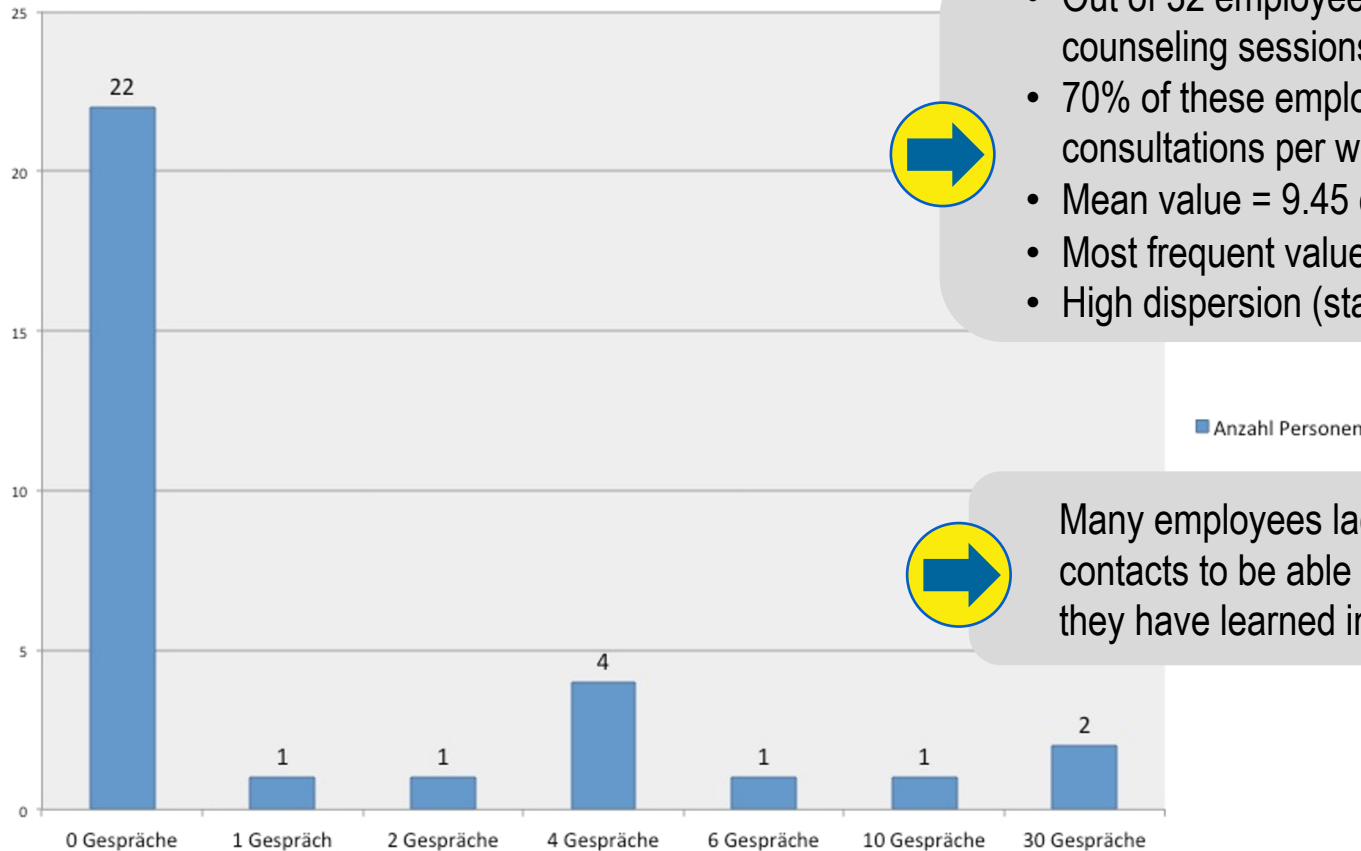
## Employee survey - data evaluation 1/2





## Employee survey - data evaluation 2/2

Anzahl der wöchentlichen Beratungsgespräche



- Out of 32 employees, only 10 conduct regular counseling sessions
- 70% of these employees conduct only 1-6 consultations per week
- Mean value = 9.45 consultations per week
- Most frequent value (median) = 4
- High dispersion (standard deviation = 11.09)



Many employees lack the necessary customer contacts to be able to transfer the knowledge they have learned into practice.



## DIRECT AND INDIRECT EFFECTS

**Direct effects** of e-learning are not yet measurable or directly evident

**Indirect effects** are suspected:

- Stronger customer loyalty (e.g., through higher quality of advice)
- Improved employee satisfaction

- *In my opinion, e-learning is a useful offering. (5,1)*
- *I think it's good that product training is provided. (5,4)*
- *I will also participate in e-learning offers in the future. (5,0)*
- *Through the e-learning I was able to learn new knowledge. (5,13)*
- *New knowledge from the e-learning courses helps me to advise my customers better (5.13)*

*Quotes*





## **FINDINGS in food retail learning**

### **No obvious effect of e-learning apparent - reasons**

- **wrong goal => Sales/revenue is „to far away“ from point of learning => too many disturbance factors**
- **wrong content => customers do not ask for advice while shopping => no need for training?**
- **wrong preparation of content => not what the trainer thinks but what the customer needs ist important (minor role of didactics)**
- **problem of small numbers => Only one retailer is considered, the number of users and the number of consultations are too small.**



## Contact

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