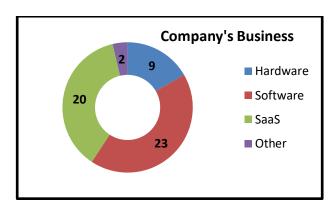


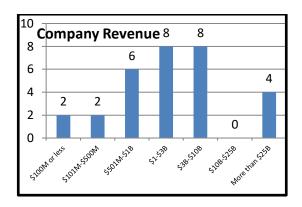
Computer Education Management Association Europe

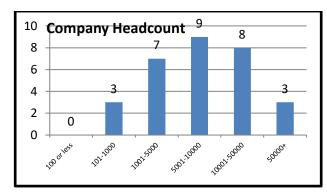
CEdMA Europe Market Barometer 4th Quarter 2016

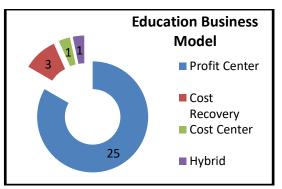
Introduction

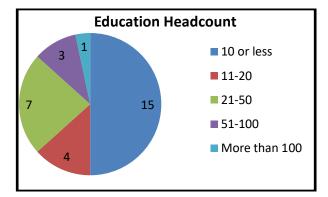
This report is compiled by CEdMA Europe for its members from input for their EMEA businesses. It is based around a series of absolute growth or decline percentages in the range +- 12.5%. Revenue refers to training services delivered in the quarter and not future bookings. Note that in this report, u/f/d is the number of members reporting up/flat/down, respectively. This report for 16Q4 actuals is based on input from 30 companies.

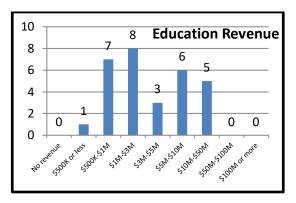












Changes to the Barometer

In response to member suggestions, we have changed the survey in the following ways from 16Q1:

- 1. We only collect data about the quarter just ended, not the "current" quarter
- 2. All questions ask about revenue, not some about volumes
- 3. We ask about the major modalities such as ILT, VILT and eLearning, plus additional services.

Summary

The unweighted average uses all responses as entered, whereas the weighted average uses the size of the revenue, taking the relevant education value, so larger companies have a bigger impact.

These observations are weighted and based on trendlines of 4-period moving averages.

Total Revenue is defined as all recognized revenue. Having been down to negative 2% in 2014, it's recovered to positive 1-2%.

Operating Profit is revenue minus all fixed and variable costs, excluding allocations, divided by revenue. It has recovered from a low of negative 2% during 2013 to a 2% increase now.

Live Classroom (ILT) is all revenue when the instructor is in the same physical location. It fell to negative 2% during 2014 but is now showing half a point under flat.

Virtual Classroom (VILT) is all revenue for instructor-led training via the web, with or without virtual labs. It dropped from 6% during 2013 to 1% in 2014 but is now just under 4%.

Public (scheduled) classes is revenue for ILT and VILT and now showing negative 2%, having been flat during 2015 but negative 3-4% in 2014.

Private (one-customer) classes is revenue for ILT and VILT, and showing an increase of 4%.

Self-paced is all revenue generated by training students without instructors, such as eLearning, video, and can be paid per use or by subscription. It's now showing a 7% increase having been as low as negative 4% during 2014.

Certification is all revenue for certification business, such as exam fees and exam prep services, but excluding any exam prep training which is accounted under ILT/VLT/self-paced. The trendline is now 2%. **Learning Consulting** is all revenue generated by non-training education business like learning needs analysis, customization of material assessments, and mentoring/coaching after training. There was a decrease of 2.2% in 16Q1 compared to the same quarter in 2015, which turned around to an increase of 1.4% in 16Q2, steadied at 1.3% in 16Q3, and grew to 1.9% in 16Q4.

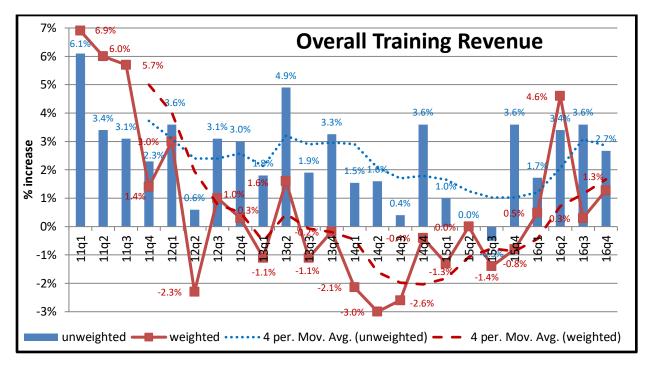
Learning Technologies is all revenue generated by learning tools, infrastructure, courseware and directly related training and learning consulting for these technologies. There was an increase of 3.6% in 16Q1 compared to the same quarter in 2015 which increased to 6.3% in 16Q2, but flat for 16Q3, and negative 1.3% for 16Q4.

New Learning Modalities is all revenue for social learning, gamification, microlearning, mobile. There was an increase of 12.2% in 16Q1 compared to the same quarter in 2015 which slowed to 2.6% increase in 16Q2, rising to 6.5% in 16Q3, then 9.0% in 16Q4.

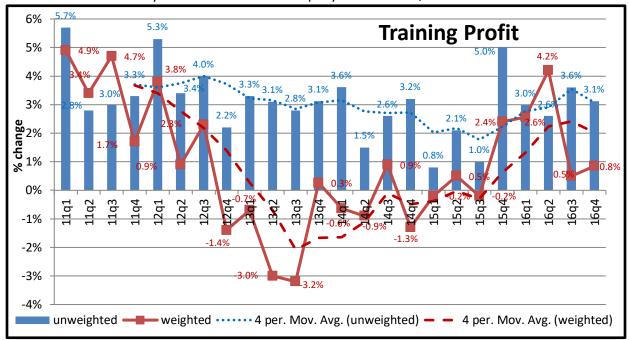
Subscriptions include all revenue from any of the above modalities included in subscriptions. There was an increase of 11.3% in 16Q1 compared to 15Q1 which has slowed to 4.3% increase in 16Q2, but jumped back up to 10.3% in 16Q3, then down to 5.8% in 16Q4.

Training Revenue and Profit

The unweighted total training revenue increase was a 2.7% in 16Q4 (u=18, f=2, d=10). When considering the weighted numbers, it was a 1.3%. The unweighted trendline shows an ongoing increase of 3%, but when size of company is considered, it's recovered to positive 1-2%.

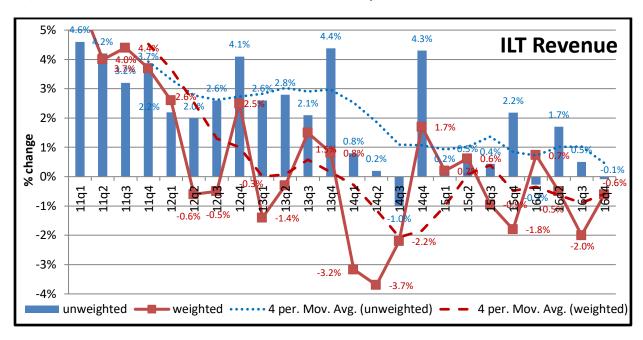


The unweighted total training profit grew 3.1% in 16Q4 (u=19, f=5, d=4). And, with the weighted numbers, there was an increase of 0.8%. The unweighted trendline shows an ongoing profit increase of around 3% over the last year but when size of company is considered, it has now risen to 2%.



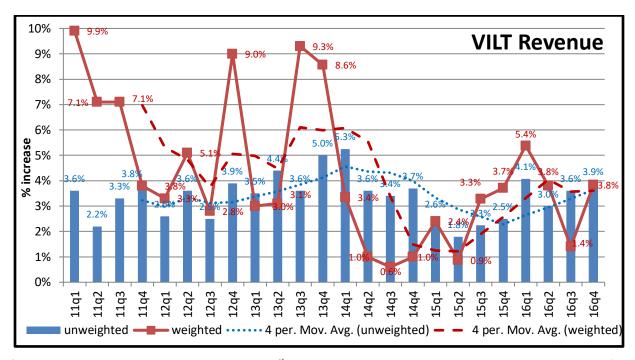
Live Instructor-led Training

This chart below suggests that ILT **revenue** for the larger companies has been the main cause of lower overall training revenue increases. The unweighted 16Q4 decrease was 0.1% (u=11, f=6, d=12) whereas the weighted number was a decrease of 0.6%. The unweighted trendline shows ongoing ILT revenue as flat, and when size of ILT revenue is considered, it is a half a point under flat.

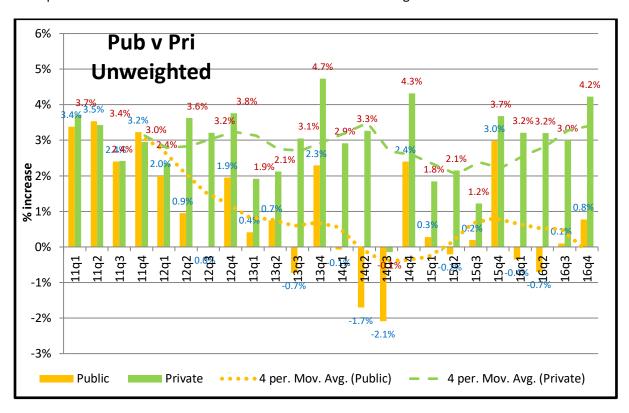


Virtual Instructor-led Training

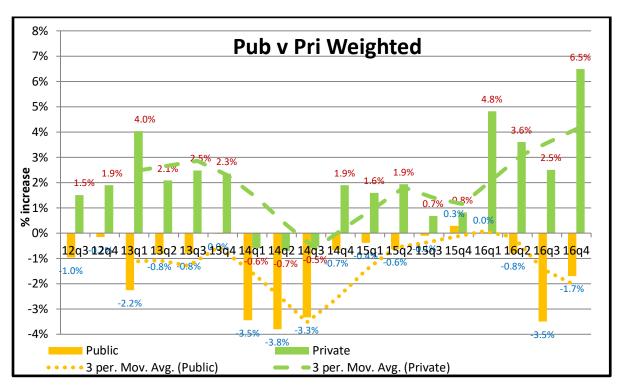
On the other hand, the VILT increase fell badly in 2014 but is now recovering. The unweighted 16Q4 **revenue** increase is 3.9% (u=14, f=11, d=2) and the weighted increase is 3.8%. The unweighted trendline shows an ongoing VILT increase of nearly 4% but when size of VILT revenue is considered, it was 6% in 2013 but is now just under 4%, having been from 1% in 2014. Note that 3 of the 30 don't use VILT.



We are now asking you to forecast both public and private classes and have enough history to show that private classes show a consistent steady **revenue** increase of around 3-4%. Public classes have recovered from a period of decreases to show flat **revenue**. This shows unweighted values.

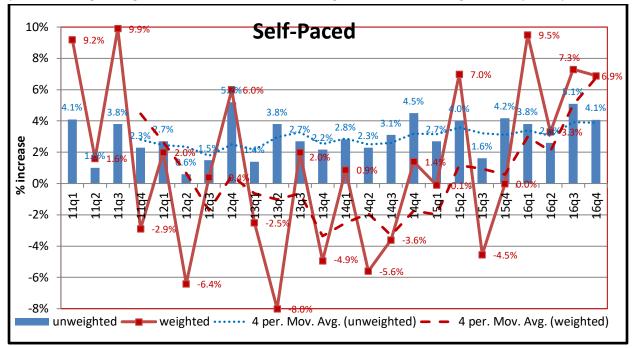


When weighted values are used, the **revenue** increases for public have dipped to negative 2% with private a 4% increase.



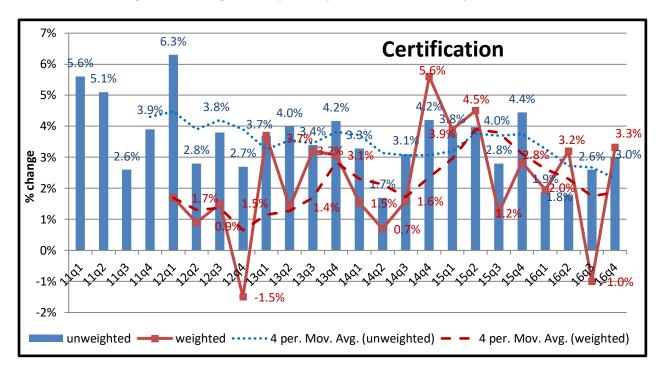
Self-Paced

The results for 16Q4 (u=13, f=9, d=2) were 4.1% increase unweighted and 6.9% increase weighted. This shows how large projects in larger companies can have a significant effect on these averages. The 4-period moving average shows a 4% increase for unweighted and 7% for weighted. Only 24 reported.



Certification

Overall, certification has averaged an increase of around 3% year-on-year when unweighted. In that four-year period, the weighted scores grew from a 1% to 4%, too, showing a resurgence in the larger companies, but has now fallen back to 2%. The **revenue** increases for 16Q4 (u=13, f=9, d=3) are 3.0% and 3.3% for unweighted and weighted, respectively. 25 out of the 30 companies offer certification.



Learning Consulting

Period	# responses	# up	# flat	# down	unweighted	weighted
16Q1	18	4	11	3	0.1%	(2.2%)
16Q2	18	6	9	3	1.0%	1.4%
16Q3	22	5	12	5	0.2%	1.3%
16Q4	20	5	11	4	0.4%	1.9%

Learning Technologies

Period	# responses	# up	# flat	# down	unweighted	weighted
16Q1	16	2	12	2	0.0%	3.6%
16Q2	17	2	14	1	1.0%	6.3%
16Q3	20	3	15	2	0.9%	0.8%
16Q4	19	1	17	1	(0.3%)	(1.3%)

New Learning Modalities

Period	# responses	# up	# flat	# down	unweighted	weighted
16Q1	15	6	9	0	2.7%	12.2%
16Q2	17	4	13	0	1.5%	2.6%
16Q3	20	6	14	0	2.3%	6.5%
16Q4	19	4	15	0	2.1%	9.0%

Subscriptions

Period	# responses	# up	# flat	# down	unweighted	weighted
16Q1	20	10	10	0	4.5%	11.3%
16Q2	20	9	10	1	4.3%	4.3%
16Q3	24	11	11	2	4.5%	10.3%
16Q4	23	13	6	4	4.2%	5.8%

Which subject areas saw the biggest increases in your training revenues in the last 3-6 months?

- 1. Private training has increased and informal knowledge transfer training
- 2. Training Subscription and Onsites Classes
- 3. Public Virtual Training
- 4. DevOps, Cloud, Security
- 5. eLearning subscriptions. growing in Q1 FY17
- 6. On-site Private ILT; very substantial deals for 3 Clients
- 7. It remains as follows: New product and solutions training increase in customer and partner related projects; Partner training this does not necessarily come with revenue
- 8. Async training
- 9. Learning Library Subscription
- 10. Private course delivery and Subscription based service
- 11. End User Training
- 12. Channel delivery

- 13. Apache Spark
- 14. Technical training
- 15. Project/Portfolio Management, Security, Continuous Delivery
- 16. Enterprise bespoke training and also hybrid public class adoption
- 17. Certification
- 18. ELearning
- 19. Endpoint Protection
- 20. Live Virtual Classes, Enterprise License sales
- 21. Certification; in Q4 our partners have to get certified to maintain status
- 22. Mobile on-site classes
- 23. NSX saw marked increase
- 24. Public training (online) and certifications partner training drove this.
- 25. Big data
- 26. Data Analytics
- 27. Networking
- 28. Large scale projects
- 29. Pre-paid training credits
- 30. Onsite training

Which subject areas saw the biggest decreases in your training revenues in the last 3-6 months?

- 1. Public classroom still struggling with low delegate numbers
- 2. Public enrollment class (ILT) mainly old content classes
- 3. Public Classroom Training
- 4. In Center public classes.
- 5. Phasing of Learning Technologies. Always expected due to mega deal last year
- 6. Private classes
- 7. eCommerce
- 8. Internal training
- 9. Java developer (on Hadoop)
- 10. User training
- 11. Service Management
- 12. Only certification is struggling right now
- 13. Windows 7,8.x
- 14. Public
- 15. Endpoint Management
- 16. Public/Private schedule live classroom based and on-site
- 17. Public enrollment
- 18. Old technology courses
- 19. Scheduled classroom
- 20. Self-paced and live classrooms
- 21. Certifications
- 22. Methodology
- 23. Mature licence products

- 24. Public courses; intercompany business
- 25. Public schedule training

What were the two greatest challenges you faced in running your business in the last 3-6 months?

- 1. New product releases with ever increasing complexity making it difficult to create images to run courses in these areas. Getting sufficient bookings for classroom courses to run running on low numbers effecting profitability.
- 2. Onboarding of new and own Customer Service team and new Training Ops folks; further stabilize our new LMS
- 3. Changing Operating Model selling Training again.
- 4. Attach
- 5. Training program delays impacted by delayed customer go-lives or postponed budgets. Low price competition in certain markets (France and Germany) continues to be a threat.
- 6. Other (internal) training priorities resulting from change in CRM system meant that resources were severely stretched continues to hold true.
- 7. Training attachment to product deals; speed to market in developing and deploying the training
- 8. Motivating sales to attach training; changing business processes around LMSs
- 9. Hiring; and hiring again!
- 10. Faster implementation methods requiring more frequent course scheduling but without an increase on delegate numbers less operating profit
- 11. Hiring and increasing attach rates.
- 12. New version release; competition with ATC's.
- 13. Getting engagement with sales people to sell training, especially onsites; keeping the business running during a huge period of change (new processes, new people, new management) due to acquisition
- 14. Driving for growth within overall climate of cost control due to challenges within the product business
- 15. Budget constraints; customers seeking private classes with low(ish) student numbers.
- 16. Outbound customer lead gen (having to do outside of attach opportunity) and increased demand for free seats (FOC) due to strategic customer or partner relationships elsewhere within the business. These are consistently the two greatest challenges faced.
- 17. Market uncertainty; currency fluctuations in Europe
- 18. Pace of product updates; hiring
- 19. Lack of approved contract Instructors with language skills other than English; no-shows in classes
- 20. Reduction in force, responding to shift in go to market model
- 21. Grey market and unofficial partner training activity
- 22. Our partners saw a reduction
- 23. Managing both an ATC program and my company's training revenue.
- 24. New metrics to comprehend!!
- 25. Increasing self-paced non-labor revenue, has been declining. Q4 likely to show increase.
- 26. Decrease of attendance in public ILT courses, especially in UK. Upskilling instructors to keep up with new products/product versions.
- 27. Time taken to design and implement new self-study courses. Getting more customers to take up online mentoring
- 28. Slow down awaiting release of new product version

- 29. Losing headcount that is not replaced; free learning; higher partner discounts; gray market competition
- 30. Identifying delivery partners in Asia
- 31. Decrease in ILT business sold by training partners decrease in attach to product

Please add any other comments or observations you have on the state of the IT training market

- 1. Had a stellar growth in onsite business; great, great adoption of our Learning subscription
- 2. More acceptance of Virtual training
- 3. Still struggling with finding demand for e-learning and subscriptions; customers not willing to commit to contractual training
- 4. More customers are looking to deliver their training themselves through a Train the Trainer program; IP protection is a concern; Customers in EMEA accepted to use Digital Guides the default delivery mode.
- 5. Modular/pay as you go model becoming more prevalent
- 6. Are customers pushing/seeking a move away from per student per day pricing (becoming a hotter question in parts of Europe)?
- 7. UK price hikes in line with Brexit impact
- 8. Ahead of H2 forecast on revenue and margin for both EMEA and JAPAC
- 9. Tough quarter... wonder if the rest of the market has experienced this too
- 10. Some areas are moving to VILT, with much greater demand from India especially
- 11. Move to cloud and subscription brings requests for free training.
- 12. Online training demand continues to be stronger; single courses still slow but multi-product subscription offerings are successful
- 13. Pressures of driving 2.5% cost reduction with increased revenue and profit targets is proving a challenge
- 14. Revenue is no longer a driver for me student days is the measure I use now
- 15. We are going through a transition and will have new courses and new e-sub in Q2 2017.