Using virtual training for technical training needs – resolving the consultants (vs.) IT companies’ tug of war

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Abstract: Owing to globalisation and changing technology trends has become essential for IT companies to keep pace with the drastically itinerant current scenario by constantly enhancing their employees’ skills by means of knowledge sharing through training. Initially, companies relied on consultants to fulfil these training needs. However, recently there is a declining trend in outsourcing the needs, especially in India due to the cost involved. Hence, a cost effective option without compromising on quality is required. Virtual training can be seen as the solution to this problem. But, there seems to be some hitches for the consultants in getting the technical training virtually imparted to the employees due to various reasons. This paper thus analyses and bridges the gap that exists between the expectation of an IT company and the actual service delivery of consultants and offers suggestions to them, to help meet their clients’ needs in a better way.

Keywords: virtual training; consultants; outsourcing; IT companies; service delivery; talent development; technical training; technology transfer; knowledge sharing; training.

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1 Introduction

In a study conducted by Hewitt Associates, 94% of those surveyed said that they had outsourced one or more HR functions (Gurchiek, 2005). Majority of the IT companies fall short of training expertise either with respect to knowledge, skills, technology or infrastructure and hence outsource their training needs to consultants for nurturing their employees’ technical knowledge and skills that act as the fuel for their business. Outsourcing training needs has always been a clear-cut strategic decision of the top management because of the substantial benefits the company can get. Whenever an organisation needs experts and if they cannot afford to hire or train their internal resources, outsourcing is the only option. IT companies believe that outsourcing and external partnering provide organisations the flexibility to adapt to external changes, the possibility for availing outside expertise, the opportunity to reduce overhead costs, and the chance to focus resources on strategic initiatives (Snell et al., 2001). More than 70% of organisations outsourced some aspect of training design or delivery (Bersin & Associates, 2004). The growth of outsourcing in training area has steadily increased over the past decade. As per the training survey report of 2010, about 81% of companies expect their spending on training outsourcing to increase or remain the same and companies that are outsourcing for the most part are satisfied with their use of external training providers or consultants. Companies have adopted outsourcing training functions primarily for two reasons: firstly, to enhance the knowledge and skills of their internal resources and have training resources available as per need and secondly, they believe that training outsourcing is a cost-effective method of delivering training (Cushing, 2010).

1.1 Training challenges faced by IT companies

Survey by Expertus (Leading Training Outsourcing Company) in 2007, indicated that 40% of respondents said their companies spent 20% to 50% of training budgets on administration, and 7.3% said their companies spent more than 50%, which includes areas such as scheduling, registrations, facility management, material fulfilment, evaluations, and reporting. This makes outsourcing needs for training mandatory for IT companies, where the companies try to outsource the operational activities to consultants and thereby minimise their administration load. Secondly, it was also found that, the reasons for most of the administrative challenges are due to heavy workloads (56.6%), inadequate technical support (46.5%), limited budget (39.9%) and lack of qualified personnel (39.5%). They also indicated a suitable solution to increase the efficiency, upgrading current technology (70.5%), additional staff (34.4%) and increasing staff training (28.6%). Rishi and Mishra (2009) concluded that the organisations must take care of performance consistency, organisation capabilities, innovations in evaluation
process and proactive measures are the major critical factors so that they can achieve the objectives of the training outsourcing.

Another key concern for the IT companies is to save cost without compromising on quality. Apart from cost, handling the present attention deficit generation, using interactive engagement to transfer knowledge and skills successfully, ability to access information 24/7 and access to solutions in real time to solve problems and increase productivity are some of the real time challenges faced by the IT companies in order to meet their ends and survive in the anecdotal contemporary business scenario (Grant Cardone, 2010). It is not possible to achieve many of these things with traditional training methods. Virtual training is thus seen as boons to eliminate the above challenges faced owing to the globalised changing scenario.

1.2 Virtual training seen as an Elixir for talent development

As the pace of change accelerates due to globalisation, diversity, information technology and intellectual capital, it kindles the need for organisational variation and innovative approaches to collaboration and integration. This in turn stimulates the need for organisational flexibility, capability, and rapid response. Firms compete less on products and markets and more on competencies, relationships, and new ideas (Snell et al., 2005). A single stop solution to address these demands is ‘virtual training’ as it can enhance both the effectiveness and efficiency of the training delivery. Virtual classrooms are increasingly a common option that many institutions of learning, both traditional and corporate, are strategically leveraging in order to cope with increasing global competition and with continuing technological advances (Smith, 2008). Virtual learning environments are being created in almost all leading organisations (Strmcnik, 2002; Brma, 1999). Virtual training is one steadfast solution that can help the IT Companies train their employees uniformly, irrespective of the location of the employee. In short, virtual training helps the associate to meet their training needs based on the slogan: ‘Anything, Anytime and Anywhere’, which is the most required service in our current scenario.

In spite of several advantages of moving towards virtual trainings, most of the consultants, especially in India, are hesitant to take this step of moving towards virtual training. Successful virtual training is more about changing the minds about learning than it is about implementing new technology. In many cases, it is necessary to change the organisation’s cultural mindset about learning for a successful virtual training (Huggett, 2014). Hence, this paper aims at identifying the areas, where consultants are finding it difficult to meet the expectations of companies in implementing virtual training and suggests suitable remedies for smooth transactions and for its effective implementation. Thus, the gap between expectations of companies and services delivered by the consultants can be minimised.

2 Literature review

2.1 Role of 8Ps and 8Cs in service industry

Services marketing are dominated by the 7Ps of marketing namely product, price, place, promotion, people, process and physical evidence, the 8th P is productivity and quality. Quality perception is a crucial differentiating factor for long-term sustainability of any
service. Business process remodelling can lead to major process efficiency improvements which again can impact overall quality as is actually delivered by the firm and is also perceived by the customers/clientele (Kar, 2011). Various focus points of 8Ps of service were taken as the basis to frame the tool used to identify the gaps. On the grounds of this factor, virtual trainings can be considered as a service to the companies. Thus, McMillian Doolittle’s 8Cs of customer experience: clarity (the right positioning), convenience (the right location and channels), choice (the right selection), communications (the right design and layout), cast/consumer (the right team), control (the right process), consistency (across time, place and channel), connection (the right relationship). The traditional 4Ps of marketing has now been enhanced to 8Ps, which in turn, are being transformed by new-age marketing strategists to 8Cs. Lauterborn (1993) proposed a 4Cs classification to address the growing focus of marketing strategist on the consumer and it later evolved to 8Cs. An attempt has been made to use these 8Cs to capture the customer centric issues and in getting them resolved with suitable remedies.

Several studies have been made in the services sector that has used 7Ps to identify the issues faced internally in their company in delivering their services to their clients. Al-Dbei and Mustafa (2014) had used 7Ps to identify the problem sectors in the hotel industry and made suggestions on achieving competitive advantage in hotel industry. Yasanallah and Bidram (2012) had tried to study the status of marketing mix (7Ps) in cooperatives and to provide proposals to improve the conditions of such cooperatives. Rani and Menon (2005) had made a study on transformation of the 8Ps to 8Cs to enable a customer-centric approach for organisations to build successful brands and improve profitability.

2.2 Virtual training – seen as a form of service delivery

Services can range from financial services provided by banks to technological services provided by IT company, hospitality services provided by hotels or even a blog where an author provides a service (information presentation, interesting reading, etc.) to his audience (Kar, 2011). On the grounds of this factor, virtual training can be considered as a service to companies. For long-term sustainability on service management, quality perception is a crucial differentiating factor (Angelova and Zekiri, 2011). Virtual trainings are being used in many fields like education, training staffs in hospitals, training pilots in Air force, etc., where they can see remarkable benefits by using virtual mode of training the students/employees. Virtual mode of delivery has exhibited productivity improvements and has both hard and soft benefits. Soft benefits (those that are difficult to quantify with precision) include: faster decision making and lesser time to market, productivity/efficiency, higher impact and focus, competitive advantage, enhanced quality of life/decreased stress, increased reach and improved management of dispersed teams. Hard benefits (those for which both the costs and the benefits are clearly understood and easily quantifiable) include travel reduction, eliminating costs associated with airfare, hotels, meals, taxis and car service, etc. Executives understand the real costs associated with a 1 1/2 day trip to attend a 1 1/2 hour meeting, they will appreciate how today’s audio-video-web conferencing solutions can help them save money, reduce wear and tear and stress in their business and personal lives, and boost personal productivity at the same time (Davis and Weinstein, 2005). Technology transfer is one key area of focus in many industries and virtual training and simulations are used for the same (Strmcnik,
Using virtual training for technical training needs

2002; Arshad et al., 2008; Kitsiou and Vlachopoulou, 2008; Kommers et al., 2004; Brna, 1999).

2.3 Modes of virtual trainings

In the CIPDs 2013 Learning and Talent Development Study, 74% of the companies reported using some level of e-learning with 91% of companies reporting it to be very useful when combined with other methods and nearly 75% (3/4th) of the respondents said it was essential for learning. Other modes like pre-recorded videos portray realistic classroom situations that give teachers opportunities to share experiences and to reflect on models or dilemmas of classroom practices (Friel and Carboni, 2000). Videoconferencing and collaboration are in the midst of a fundamental paradigm shift as new technologies, new vendors, and new partnerships bring integrated voice, video, and web solutions to the enterprise desktop. More than 70% of business travellers were stressed by frequent travels and as a viable alternative to business travel, video conferencing can reduce employee stress and enhance their quality of life (Davis and Weinstein, 2005). The Webinar medium can be viewed in either a live format, where viewers can participate in the excitement of a live event and ask the presenter(s) questions, or through an on-demand recording, they can access and view the program at their convenience (Hanson, 2012; Jovanovic and Hartman, 2013). Live Meeting can help you participate in meetings around the world, at a moment’s notice, and at a fraction of the time. This paves way to save time, money and thereby increase productivity. It allows users to connect with customers, partners and, employees in order to collaborate across different organisations.

2.4 Hitches in implementing virtual training effectively: identifying the gaps

According to Dana (1987), entrepreneurs need to make their business updated to meet the unsatisfied needs of their customers. On applying the same to our study, the unsatisfied quotients of the training needs are to be found and bridged. Another important quality required by entrepreneur is the ability to take initiative based on the opportunity identified (Kao, 1988). The global environment calls for new strategies, often involving a trade-off between independence and profit (Dana, 2007). New technology-based firms (NTBFs) are a vital determinant of regional growth potential and significantly differ from common starters on a number of fundamental characteristics such as educational level, product/market-orientation, socio-economic networking, delegation, growth strategy and Research and Development (Donckels and Segers, 1990). Virtual training is seen as one such initiative for training opportunity worldwide. Timeliness, expertise and realistic nature are key skills required for consultants to serve the clients requirements in a better way (Poorani and Thiyagarajan, 2015b).

There is a myth that the courses required for students to use physical skills or hands-on experience cannot rely on virtual training (Taylor, 2002a) and IT companies also feel that technical trainings require hands-on experience. Bandwidth/browser limitations may restrict instructional methodologies. If your content relies on lot of video, audio, or intense graphics, and your audience does not have audio facility, virtual mode of delivery will only frustrate your learners. Web-based training has high-fixed costs (James, 2002). Training and technological expertise issues also arise in a virtual
environment (Bergiel et al., 2008; Powell et al., 2004) as team members frequently lack the training necessary to function effectively and navigate the technology in a virtual environment (Bergiel et al., 2008). Cifuentes and Shih (2001) summarises the major disadvantages of online learning as technical failure, constraints of e-mail such as sending diagrams or pictures, and the time involved. Taylor (2002b) points out that face-to-face interaction is missing, and motivating audience to collaborate online can be a time consuming task. The absence of non-verbal cues and tacit knowledge transfer makes communication difficult (Bower et al., 2001; Lantz, 2001; Hill, 2000; Powell et al., 2004). The above issues that have been listed out in the literatures have also been reflected in our study and solutions have been proposed for the same.

3 Methodology

From the literatures reviewed above the study aims to identify the difficulties faced by consultants in delivering technical trainings on virtual mode and the expectations of the companies with respect to getting the technical trainings delivered on virtual mode and bridge the gap, if any, between the two. Primary data required for the study were collected from IT companies that outsource their technical trainings and from their respective consultants who deliver the service on virtual mode. IT companies that outsource their technical trainings were identified from Chennai, Bangalore and Puducherry along with their consultant partners who are delivering technical trainings on virtual mode for those IT companies were selected. Questionnaires were developed, one for the company and one for the consultant, for the purpose of data collection and it was circulated to the IT companies and their corresponding consultant partners respectively. 50 companies were identified on the basis judgement sampling, criteria being:

a  company should outsource their technical training for a period of at least two years to the same consultant

b  The consultant’s willingness to participate in the study.

The authors personally visited the companies and their consultants for the purpose of data collection and the questionnaire was issued to the manager level employees in the companies, who was directly involved in the transactions. Out of 50 companies and Consultants visited for data collection only 31 were found to be appropriate for the study.

From a consultant’s point of view, providing ‘virtual training’ is a form of service delivery. Thus, the 8Ps and 8Cs of the service marketing mix were used as parameters to identify the difficulties faced by consultants while executing virtual training and the dissatisfaction levels/expectations of the IT companies. Therefore, the methodology adopted was to measure 8Ps on service delivery model to identify the gaps on the parameters of 8Ps (product, price, place, promotion, people, process, physical evidence and productivity). For each of the parameters of 8Ps, various aspects pertaining to pre-training, during training and post-training were taken into account to frame the questions. The questionnaire was initially circulated to the consultants and the difficulties faced in implementing virtual training before and during the training were recorded. The rating scale used in the questionnaire was a five-point scale (1 – Easy to implement, 2 – Less difficult to implement, 3 – Moderately difficult to implement, 4 – Very difficult to implement and 5 – Most difficult to implement. The 8Ps that were thus used as the
parameters to estimate the difficulties faced by consultants in getting the virtual training implemented for their clients are discussed below.

3.1 Operational definition of 8Ps

- **People:** Under this parameter, the difficulty level with respect to the variables on fixing the training audience and trainer, handling the training audience at various levels, adapting to the cultural background and estimating the satisfaction of the audience, after training were analysed.

- **Product:** It focuses on the areas pertaining to delivering virtual training as a packaged service, delivering the various product category options and estimating the feedback of the course content.

- **Place:** This parameter focuses on the location constraint, delivering training at a group or individual level, ensuring a uniform training experience and estimating the environment feedback.

- **Process:** Difficulties faced with respect to variables, corresponding to process related activities that include: gathering of requirements, content development, checking the pre-requisites of the audience, choosing the mode of delivery, keeping up the agenda, synchronising the individual goals with training goals, were analysed.

- **Price:** It focuses on the areas pertaining to fixing the costs of various elements of virtual training; handling contingencies and fixing the ROI and profit of these were analysed.

- **Promotion:** In this parameter, the difficulty level with respect to the variables contributing to delivering virtual training at various levels (organisation, group and individual levels), analysing the difficulties faced during the training, the levels of difficulty in creating interest in the audience and estimating the impact of the various promotional offers.

- **Productivity:** This parameter focuses on difficulty levels with respect to meeting ROI and profit, estimating the business impact, alignment to business or organisational need, the validation of course content, instructor and delivery mode with the clients, the contribution of support tools and estimating the learning effectiveness and job impact.

- **Physical evidence:** Difficulties faced with respect to variables corresponding to giving a demo before the training, estimating the comfort level of the participants, getting their attention and interaction with participants and estimating the overall training feedback.

From the client’s perspective, 8Cs model (clarity, cost, communication, culture/cast, convenience, control/content, connection and consistency) was developed to measure their dissatisfaction, which could help to analyse the difficulties from the side of customer satisfaction and bridge the gaps between the consultant (delivery problems) and client (dissatisfaction issues) and ensure an effective service delivery model. For each of the parameters of 8Cs, various aspects below were taken into account to frame the questions. With respect to the responses collected from the IT companies, the managers
T. Poorani and S. Thiyagarajan were asked to rate their responses about all the aspects of 8Cs under all the five modes of virtual trainings (e-learning, live meetings, Webinar, video conferencing and pre-recorded videos) and a mean value of the response was taken for the analysis. The rating scale used to measure the satisfaction levels is also a five-point scale (1 – Very satisfied, 2 – Satisfied, 3 – Neither satisfied nor dissatisfied, 4 – Dissatisfied and 5 – Very dissatisfied). The 8Cs were used as parameters to estimate the satisfaction levels or expectation of clients in getting virtual training as a service.

3.2 Operational definition of 8Cs

- **Consumer/cast:** Under this parameter, the dissatisfaction levels with respect to the clients/participants for the following variables were measured: trainer impact, co-participants impact and to what extent virtual trainings can adapt to culture of the organisation/individual.

- **Clarity:** This parameter measures the dissatisfaction levels with respect to the clients/participants for the following variables: package service offer, the various products and meeting requirements.

- **Convenience:** Under this parameter, the dissatisfaction levels with respect to the clients/participants for the following variables were measured: location, ability to establish a uniform training experience and measuring environment feedback.

- **Control:** This parameter measures the dissatisfaction levels with respect to the clients/participants for the following variables: content feedback, assessing materials, ensuring the pre-requisites are met, keeping up the time and agenda and synchronisation of the individual versus training goals.

- **Cost:** Under this parameter, the dissatisfaction levels with respect to the clients/participants for the following variables were measured: training cost, commutation cost, ROI, updating technology cost and contingency costs.

- **Communication:** This parameter measures the dissatisfaction levels with respect to the clients/participants for the following variables: interaction level, drawing attention, creating the need for attending next time and various promotion offers.

- **Consistency:** Under this parameter, the dissatisfaction levels with respect to the clients/participants for the following variables were measured: Meeting of business needs and learning effectiveness, support tools, course content and suitable delivery mode, alignment to business needs, monitoring progress in job/behaviour and being able to connect with other participants through social media.

- **Connection:** This parameter measures the dissatisfaction levels with respect to the clients/participants for the following variables: demo/pilot run effect and efficiency, comfort level during training, concentration and interaction during and overall training experience.
3.3 Data analysis overview

The Instruments used to measure 8Cs and 8Ps were tested for reliability using Cronbach’s alpha and validity by construct and convergent techniques. Correlation analysis was attempted to assess the nomological validity. Structural equation modelling was be used to identify gap that may exist between the expectations of the companies and difficulties faces by consultants to deliver their service.

3.4 Analysis and results

The results of reliability (Table 1) of the scales for Ps and Cs were assessed using Cronbach’s alpha and it can be seen that the calculated CA values are above 0.90 (0.961 and 0.985) signalling consistency, the scales developed to measure Ps and Cs are reliable and can be used to measure 8Ps and 8Cs in marketing. Construct reliability for Ps (0.888) and Cs (0.890) are more than 0.7 (Hair et al., 2009) therefore validity has been established. Variance explained for Ps (0.729) and Cs (0.884) are more than 0.5 (Hair et al., 2009). From the diagram, it can be seen that all the standardised loadings are above 0.7 and are significant, satisfying the ideal rule of thumb (Hair et al., 2009). From all the above discussed results, it can be concluded that convergent validity has been established.

Table 1  Reliability and validity

<table>
<thead>
<tr>
<th></th>
<th>Cronbach’s alpha</th>
<th>Convergent validity (variance extracted)</th>
<th>Convergent validity (construct reliability)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ps scale</td>
<td>0.961</td>
<td>0.729</td>
<td>0.888</td>
</tr>
<tr>
<td>Cs scale</td>
<td>0.985</td>
<td>0.884</td>
<td>0.890</td>
</tr>
</tbody>
</table>

From Tables 2 and 3, which are correlation coefficients between Ps and Cs it can be seen that all the Ps are correlated among themselves at a high level (> 0.70) and they are all significant at 1%. The scenario is more or less same for Cs as well, as all the Cs are correlated above 0.80 and are significant at 1%. The constructs of Ps and Cs are related to one another signalling an Oretical framework. From the above results, it can be concluded that nomological validity has also been established.

Table 2  Correlation between Ps

<table>
<thead>
<tr>
<th></th>
<th>People</th>
<th>Product</th>
<th>Place</th>
<th>Process</th>
<th>Price</th>
<th>Promotion</th>
<th>Productivity</th>
<th>Physical evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>0.834**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Place</td>
<td>0.905**</td>
<td>0.923**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process</td>
<td>0.881**</td>
<td>0.850**</td>
<td>0.901**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>0.763**</td>
<td>0.737**</td>
<td>0.783**</td>
<td>0.806**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promotion</td>
<td>0.825**</td>
<td>0.842**</td>
<td>0.854**</td>
<td>0.785**</td>
<td>0.741**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Productivity</td>
<td>0.777**</td>
<td>0.881**</td>
<td>0.873**</td>
<td>0.824**</td>
<td>0.638**</td>
<td>0.806**</td>
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</tr>
<tr>
<td>Physical evidence</td>
<td>0.827**</td>
<td>0.841**</td>
<td>0.847**</td>
<td>0.856**</td>
<td>0.735**</td>
<td>0.825**</td>
<td>0.868**</td>
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</table>

Note: **Significance at 1%.
Table 3  Correlation between Cs

<table>
<thead>
<tr>
<th></th>
<th>Culture</th>
<th>Clarity</th>
<th>Convenience</th>
<th>Control</th>
<th>Cost</th>
<th>Communication</th>
<th>Consistency</th>
<th>Connection</th>
<th>Consistency</th>
<th>Connection</th>
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</thead>
<tbody>
<tr>
<td>Culture</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Clarity</td>
<td>0.941**</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Convenience</td>
<td>0.931**</td>
<td>0.961**</td>
<td>1</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Control</td>
<td>0.905**</td>
<td>0.942**</td>
<td>0.925**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>0.950**</td>
<td>0.939**</td>
<td>0.937**</td>
<td>0.894**</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>0.905**</td>
<td>0.904**</td>
<td>0.901**</td>
<td>0.878**</td>
<td>0.920**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistency</td>
<td>0.922**</td>
<td>0.923**</td>
<td>0.926**</td>
<td>0.888**</td>
<td>0.955**</td>
<td>0.910**</td>
<td>1</td>
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</tr>
<tr>
<td>Connection</td>
<td>0.893**</td>
<td>0.877**</td>
<td>0.887**</td>
<td>0.826**</td>
<td>0.916**</td>
<td>0.877**</td>
<td>0.936**</td>
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Note: **Significance at 1%.

Table 4  SEM results

<table>
<thead>
<tr>
<th>CMIN</th>
<th>df</th>
<th>Sig</th>
<th>CMIN/df</th>
<th>NFI</th>
<th>RFI</th>
<th>CFI</th>
<th>RMSEA</th>
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</thead>
<tbody>
<tr>
<td>160.531</td>
<td>103</td>
<td>0.000</td>
<td>1.559</td>
<td>0.864</td>
<td>0.821</td>
<td>0.945</td>
<td>0.099</td>
</tr>
</tbody>
</table>

From Table 4, it can be seen that normed chi-square is less than 3, comparative fit index (CFI) is more than 0.9, normed fit index (NFI) and relative fit index (RFI) are more than 0.8 and root mean square error of approximation (RMREA) is less than 0.10 (Hair et al., 2009). Hence, it can be concluded that the data fits the model very well. The loadings are significant at 5% for all the product, price, place, promotion, people, process, physical evidence and productivity (Ps) and clarity, cost, communication, culture/cast, convenience, control/content, connection and consistency (Cs) from which it can be
concluded that all the variables contribute significantly towards measuring difficulties faced by consultants and expectations of clients. However, from Figure 1, the values pertaining to the standardised regression coefficients, it is found that physical evidence (0.952), price (0.907) and productivity (0.812) are the more difficult areas for the consultants. Similarly, convenience (0.983), consistency (0.976) and connection (0.940) have the highest values signalling the areas that have high dissatisfaction level/expectations are not met. Also, the advantageous areas in using virtual training for consultants are promotion (0.78), product (0.79) and place (0.81). In the case of companies, cost (0.90) and control (0.91) seems to be the areas of satisfaction.

4 Discussion and interpretation

From the SEM results in Figure 1, it is interesting to see that there is no significant relationship between 8Cs and 8Ps (i.e.) the dissatisfaction levels of the clients and the difficulty levels of implementing virtual training by the consultants. Hence, this indicates that the dissatisfaction level of clients has nothing to do with the problems faced by the consultants in getting the virtual trainings implemented (i.e.) they are mutually independent. However, when the dissatisfaction quotients are left unnoticed by the consultants, on a long run, it will become a major hurdle for consultants to proceed with virtual training itself. Therefore, if the consultants can impose minor process changes and improve the quality of service delivery based on the dissatisfaction quotients of the clients. Secondly, problems faced by consultants have to be internally dealt by the consultants on a pro-active basis. Based on the values pertaining to the standardised regression coefficients, it is found that physical evidence, price and productivity are some of the major difficulties faced by the consultants. Similarly, convenience, consistency and connection have the highest values signalling the areas that have high dissatisfaction level/expectations that are not met. The advantageous areas in using virtual training for consultants are promotion, product and place. Cost and control seems to be the satisfaction quotients for companies compared to the other Cs. This has been clearly detailed in the below sections.

4.1 Difficulties faced by consultants

With reference to executing technical trainings in virtual mode, physical evidence seems to be the major concern. Giving a demo before the training, estimating the comfort level of the participants, getting their attention, interaction and estimating the overall training feedback are the focus areas. Most of the participants and trainers in India are still not open to virtual mode of training. The initial glitch still exists because of not using the right trainers with appropriate skill set. Thus, trainers find it difficult to connect with the participants and vice versa, especially for technical training where hands-on experience is very much required. First of all, trainers do not realise that virtual training requires some more special efforts with respect to providing high interaction levels and ensuring the attention of participants (Huggett, 2014). There are many tools like poll – ask challenging questions to invite participant responses, annotation – highlight words and draw on screen, chat – encourage dialogue between participants, raise hand – ask yes/no or agree/disagree questions, screen sharing – share slides, software programs or websites
with participants, *material distribution* – offer handouts and other paper-based resources, *tests* – check for knowledge transfer and comprehension, *audio* – allow verbal responses from participants and encourage open dialogue. That can ensure that the trainers are aware of the pulse of the participants and give opportunity for the participants to experience a live session. Secondly to prepare the participants, it is essential that the consultant and top management work collaboratively to create an appropriate learning environment, provide the right technology, set expectations and hold a kick-off session. It will be a one-time effort the company has to take to educate the participants and make them comfortable and adapt to the cultural change. In short, the trainer has to be assessed before the training and also it has to be ensured that the pre-requisites are met by the participants. It is very essential that virtual training should neither be compared with face to face training nor be treated similar to classroom training by either the consultants or the IT companies. The trainer, the mode of delivery and the audience have to be specific to the training need and appropriately ensure that a perfect synchronisation exists between these entities. Price seems to be the next major concern at the consultant’s perspective. This is because of the fact that, it is the consultants, who have to incur initial technology up-gradation/installation cost to implement virtual trainings, incurring the cost for updating technology periodically, take up the cost for handling contingency and repair charges, fixing up the trainer and incurring the training costs. This could be one of the main reasons for most of the consultants’ reluctance to move towards virtual trainings completely. However, it is something they have to come out of the box and think on a long-term perspective. In the long run, these charges will become negligible and the execution of trainings across the globe will be an easy job for them. There are reviews that indicate the significance of virtual training with respect to the cost effectiveness. Some suggest creation of re-usable learning objects (recording) for the virtual training that can be used as e-learning’s which can save cost to the company (Weller, 2004). There are other studies that compare direct and indirect costs involved, in conducting trainings by instructor led classroom mode and virtual mode. The results from the same prove that virtual trainings are cost effective (Buzhardt, and Semb, 2005) and (Kruse, 2002). Virtual trainings can become easy to implement and also more profitable when dealing with more number of clients (Poorani and Rajeswari, 2014).

The next difficulty of the consultants is with respect to productivity/quality assurance. This is a general problem that consultants face regarding the ROI estimation, business impact estimation and ensuring that there is alignment to business needs. An additional yoke with respect to quality assurance when trainings are executed on virtual mode, they tend to face a lot of difficulty with respect to contribution of support tools (infrastructure set up and technical connectivity issues). The virtual audience may tend to face a lot of hindrances relating to getting connected to the sessions and ensuring that the installations are made properly. Again, this is also an initial hiccup that can be rectified and made smooth on regular usage of virtual trainings implementation. Another remedy is getting to conduct training/demo sessions on virtual connectivity and installations and also ensuring that the streaming of video/desktop sharing is having adequate speed during execution of virtual trainings. For an effective virtual training, it is essential to have a defined process for logistics, include correct connection information in communications, share all information needed in advance of the session, insist on pre-session ‘tech checks’, start 10 minutes early and also have back-up plans (Huggett, 2014).
4.2 Difficulties faced by clients (IT companies)

The major dissatisfaction coefficient with respect to IT companies in experiencing the virtual training for technical programs is ‘convenience’. Since most of the participants in IT companies are used to attending face to face classroom programs, attending programs in virtual mode may seem inconvenient for them. This is one mind block that has to be eliminated and taking into account, the advantages of moving to virtual mode, in the long run, one has to equip oneself to cope up with the paradigm shift of moving from classroom mode to virtual mode. Apart from the trainer being chosen right, it is equally essential that the participants have met the pre-requisites and are being trained to adapt to the virtual mode of delivery. Live-meetings and Webinars are normally considered as appropriate platform to execute their technical trainings. Nature of the training plays a vital role, the number and the nature of the audience to be trained. When the number is less, live meeting is the best method to deliver technical training and when the number is more, Webinar is the preferred method.

The second dissatisfaction aspect in implementing virtual training for technical programs is ‘consistency’. IT companies feel that measuring the ROI, business impact and learning effectiveness for a virtual training are difficult. Also, the interference of support tools (infrastructure and technical support) is very poor. This is one key factor that makes a virtual program inconsistent. Consultants have to take steps to eliminate these hurdles and assure a reliable and consistent training delivery in virtual mode. While most companies assess their training needs and take up the training, they do not give emphasis to the next needed step of the training which is the assessment of the skill gaps that are bridged after the training. Most of the companies have now started implementing the assess-train-assess (ATA) approach, which refers to an initial assessment of any skill gap, followed by training provision to meet the needs identified in that initial assessment. Lastly, there is a follow-up assessment to determine the extent to which the training need has been met (Miller et al., 2005). The post training interpretation and assessment is a common issue. And with respect to support tools, it is very essential that the audience are educated on the installation processes and the necessary measures be taken in case of any contingency issues. There exists several readymade software available to measure the ROI, profit, business impact, learning effectiveness and ensuring that the feedback is measurable. Analysis of the performance of consultants and giving periodical feedback is essential to improvise the quality of training delivery in future course. Using appraisal as a mechanism to evaluate the performance of consultants not only ensures quality service by the consultants but also helps the software companies to provide effective and constructive feedback to the consultants (Poorani and Thiyagarajan, 2015a). The next dissatisfaction aspect in implementing virtual training for technical programs is ‘connection’. Experiencing demo/pilot run effect, comfort level during training, being able to concentrate and interact during training and overall training experience is dissatisfied to an extent in virtual training because the audience are still attached to the classroom mindset and still not ready to focus and get into the virtual mode of training. Secondly, people are naive about the ways of efficiently using the virtual modes and not much open to learn and experience them fruitfully. Unless the right trainer with the right skill set is identified to handle virtual trainings, the audience cannot feel connected in attending the virtual training. For an effective virtual training, it is essential that
the trainer, prepares relentlessly, engages an unseen audience effectively, multi-tasks efficiently, makes the most of their voice proficiently and also is prepared to handle unexpected challenges (Huggett, 2014). Lu et al. (2013) have discussed on identifying the determinants that influence learners’ knowledge sharing behaviour in a virtual learning community which is pivotal to establish Connection during the training.

4.3 Advantages of using virtual training for technical programs

The advantageous part for the consultants with respect to implementing virtual training for technical program is promotion, product and place. Consultants feel that promoting technical trainings is easier because it is the need of the hour for IT companies. Similarly, in case of virtual training, the trainer pool becomes global and hence getting the right trainer from any part of the world is easier whereby this added advantage can be used by consultants to promote training programs based on trainer’s expertise. Hence, the best expertise can be made available at affordable rates for the consultant. Secondly, virtual training can help deliver the various trainings as a product in a very effective way because of the availability of the various modes of training. The product (training) can be made as reusable entities due to the availability of the recording facility and played back any number of times. In the case of e-learning, the course content can be periodically updated based on the feedback from the employees. Giving feedback after the training on the trainer and accessing materials and ensuring the training goals synchronisation with business goals on a global perspective is easy. The IT companies can be rest assured that any technical need can be addressed and the results can be obtained on a global perspective. Thirdly, place is another advantage when technical training is being offered in virtual mode. Irrespective of onsite (abroad) or offshore (India), pooling the participants to log on to a common medium saves a lot of time and cost without compromising on quality. Krajka and Kleban (2014) indicated that virtual training can be used as a developmental instrument for establishing local and global connections.

In IT company’s perspective, it is noticed that all the Cs values are the higher end with respect to the SEM results (based on Figure 1). However, among them, cost and control are considered to be advantageous factors. By adoption of virtual trainings, the overall training cost reduces, commutation cost will not exist and the initial set up cost is something affordable for them, which is only a technical set-up. The IT companies are also on an easy go with respect to the control factor when it comes to implementing training on a virtual mode. With respect to control aspect, virtual trainings are also an important source of knowledge creation and technological innovation as they can be recorded and accessed anytime and anywhere. Knowledge creation and technological innovation are important for firms of all sizes to create and sustain competitive advantage (Santoro, 2014; Mailhot et al., 2013; Bigliardi et al., 2013; Oyedoyin et al, 2013; Malik and Wickramasinghe, 2013). Secondly, a healthy technology transfer process adopted in any organisation can help with reduced negative impact from cultural differences in the organisation (Nguyen and Aoyama, 2013).
5 Conclusions

The most unique finding is that there is no significant relationship between the problems faced by consultants and the dissatisfaction of clients/IT companies. Thus, ideally it is essential that a change of mindset is required at both ends to accommodate this paradigm shift to virtual trainings. The study reveals the gaps with respect to consultants and IT companies on similar grounds being the physical evidence/connection issue wherein, on both sides there exists difficulty in establishing a live experience through virtual mode. Another similar gap is the productivity/consistency. It is very essential that they think on long-term perspective and embrace the opportunities for growth by setting right the essentialities required for implementing virtual trainings effectively and efficiently and overcoming the so called hurdles that is preventing them. The limitation of the paper is that, only selected IT companies in Chennai, Bangalore and Puducherry that outsource their technical training to consultants and who have started providing virtual training mode solutions were chosen for the study. Since virtual training is an emerging concept, not all consultants have attempted to take the plunge into it. There are also some mind blocks with many of the IT companies itself in getting their frame of mind drifted from the conventional classroom training to virtual trainings. Hence, this paper stands unique in making an attempt to see how this essential paradigm shift from classroom training to virtual trainings can be made smooth and beneficial to both consultants and IT companies with respect to implementing technical trainings or imparting technology transfer for employees of IT companies.

References


Using virtual training for technical training needs


