ADDING SUSTAINABLE VALUE: INTEGRATING SUSTAINABILITY VIA A MULTI-DISCIPLINARY LEARNING METHOD IN HOSPITALITY MANAGEMENT EDUCATION

Scientific paper

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Abstract
Purpose – This paper addresses the issue put forward by Bynum Boley and Remington-Doucette by proposing a multi-disciplinary method, as an applicable learning method to integrate all three dimensions of sustainability in Hospitality education. The purpose of this paper is to request feedback of the industry partners and colleagues present at the conference to a proposed educational method that is possibly suitable in the design of a minor in sustainability for hospitality management.
Design/ Methodology/ Approach – The educational method designed focuses on solving sustainability problems of the "real world" and extends the research on integrating sustainability in higher hospitality management education.
Findings – Through the analysis of sustainability in Hospitality education and through adding the concept of the triple bottom line[6] for value creation to the quadrants of the Hospitality Value Chain, an integration of sustainability in the system of hospitality education is considered and explored.
Since sustainability is an everlasting process, education needs to be on the forefront in creating future change agents[2]. This possibly requires an alternative view on developing knowledge and skills of hospitality and tourism students via a multi-disciplinary approach/learning method.
Practical implications – The designed learning method can be put in practice and used for further research on implementation of sustainability in higher hospitality education.
The originality of this research –The originality of this research consist of the fact that this form of sustainable education is in its primary stage and not much debated yet.
Keywords Education, teaching method, sustainability, constructivism, and pressure cooker

INTRODUCTION

For future generations to thrive in this world, education must lead the way — by teaching, and by example.[7]

The concern of sustainable operations in the hospitality industry is growing and nowadays guests expect hotels to operate on a sustainable level while still providing them reasonable priced quality service. Higher hospitality management education offers the possibility to gain applied knowledge about hospitality processes, human resource management, strategic management, marketing and sales and technology. Because hospitality management students are considered the change agents of the future and when they are exposed to principles, techniques, applied knowledge and best practices during their education they will influence the sustainability agenda for the hospitality industry now and in the future as entrepreneurs or managers.[8]

Education is still one of the key forces of sustainable development as it was identified during the Earth Summit in Rio in 1992. Kofi Anan argued in 2001 that humanity is confronted with the transformation of sustainable development from an abstract to a real perspective for humanity.[9]

In his writing on Sustainability in Higher education David Hales[7],former president of the college of the Atlantic and the current president of Second Nature, pointed out four fundamental dilemmas; Alleviating poverty, removing the gap between rich and poor, controlling the use of violence by political ends and changing our patterns of production and consumption and achieving the transition to sustainability.[7]A manager in a global industry such as hospitality and tourism will face in the course of his or her career all these dilemmas.

This paper explores which teaching method is the most suitable to a minor in sustainability in hospitality management. The author briefly analyzes the literature discussing sustainability in higher education curriculum, the key competences needed for students to become change agents and the design of an interactive, experimental, transformative, and "Real World Learning" method. Particular attention is given to the "pressure cooker" as a learning method. Bottom line is to assess of this method contributes to the development of knowledge, skills and competences of students in sustainability applied to hospitality management. Aforementioned, the result of this exploration is the development of a minor in sustainability for Stenden Hotel Management School. Stenden is a University of Applied Sciences with headquarters in the Netherlands and campus sites in South Africa; Bali; Thailand and Qatar. The aim of the minor sustainability in hospitality is to develop students' ability to add sustainable value to the hospitality value chain with the thought of being a "guest on earth" in mind. The minor's learning goals are to deepen, critically analyze, further develop and apply the competencies (i.e. the resultant of knowledge, skills and attitudes) of hospitality management students towards sustainability by confronting them with 'Real World' cases so that they acquire the ability to give advice to companies and organization in the real world on how to reach sustainable solutions.

1. SUSTAINABILITY IN HIGHER EDUCATION

This section discusses the discourse on sustainability in education with focusing on the need for change agents of the future and the competences these change agents need.

1.1. Introduction

The implementation of sustainable education in hospitality management is still at is infancy, while in the 'real world' both businesses and their managers need to be schooled in sustainability in order to face the challenges of the 21st Century, [1]. Therefore the United Nations Decade of Education for Sustainable Development was announced, this with the aim to integrate sustainable development to all levels in education[10].

1.2. Need for sustainable change agents

Researchers refer with different terms to the incorporation of sustainability in higher education, such as education for sustainable development, sustainable education and sustainability in higher education. Nevertheless the goal of all these variations is to solve problems in the ecological, social and economic dimension and preferably add sustainable value to all these dimensions[11]. Hospitality management and tourism management education provide graduates to the largest industries in the world, hopefully in decision-making positions. The tourism and hospitality industry have a high impact on all three dimension of sustainability[12]. From here arises the need to further the integration of sustainability into tourism and hospitality education. In seeking this integration the recommendation of B. Boley[2] should be taken into account: more collaboration in the curriculum of hospitality and tourism management education between the three stakeholder groups[2] (students, educators, and industry practitioners).

1.3. Competencies needed for sustainable change agents

Since the discourse on competencies for sustainable development in higher education has been summarized by A. Wiek et al.[13] where a simple model differentiate three clusters of sustainable competencies:

1. Strategic Knowledge cluster, where a focus on creating future scenarios and sustainability visions by analyzing and critically reflecting on the recent and earlier in the principles of sustainable development. The aim of the development of this competence is to train the skills in developing future sustainable scenarios and visions, combines systemic, anticipatory, normative, and action-oriented competencies. With these skills trained and knowledge learned it will help the student as future change agents, to cope with different opinions, other perspectives, facts, preferences and other strategies.
2. Practical Knowledge cluster, this cluster helps the future change agents to link the knowledge learned with the practical application of this knowledge. To obtain these implementation skills the future change agents need to get hands-on experience. With these skills hospitality management students test the validity and robustness of their learned strategic knowledge on sustainable development processes, constraints and decision-making contexts. This cluster of competencies will help them to design and implement sustainable development initiatives on all levels.
3. Collaborative Cluster, a future change agent must be able to work in groups and could communicate with different stakeholders, facilitates participatory research and fostering collaborative decision-making. Another important factor in this cluster is motivation. The student involved in sustainable hospitality education need the motivation to solve sustainable problems with taking the social and environmental aspect into consideration.

These three clusters have been embedded in a minor sustainability in hospitality management and it has been proved that they help the post-graduates in their advanced systems thinking, where normative and strategic competences are build[4].

In his research L. Velazquez et. al.[1]found 17 factors that are affecting effectiveness of sustainable development (SD) in higher education. Only four of them are affecting education in the classroom itself and are therefore here so discussed. These four factors are the responsibility for future generations, the lack of time, the lack of interdisciplinary research activities, and the lack of performance indicators.

The lack of awareness, interest and involvement in higher education leads to not understanding the responsibility that professors, lecturers and student have for future generations. The second factor is the lack of time; those who are in charge of sustainability projects are occupied with other activities in the university. Lectors, tutors and instructors, even students are busy people, with more on their program rather than taking care of the needs of future generations. The third factor, the lack of interdisciplinary research activities. The interdisciplinary research is needed for providing solution to problems in the three dimensions and levels of sustainability[14]. It states that the lack of coordination and sufficient collaboration of experts in different fields and/or academic units is one of the most difficult parts for university leaders[15] to cope with. The last factor is the lack of performance indicators; these are the one that can claim if an initiative is effective. In hospitality management more and more performance indicators are adopted in management reports and strategy building rather than the financial ones, these are fostered by the adaptation of ISO norms and the procurement of other certifications that require specific measurements. In the literature there are numbers of sustainable indicators, still sustainable indicators measure the impact on environmental values more that the impact on social or economical values. Nevertheless designing a sustainability index is difficult since, sustainability is an aggregated concept while indicators only measure specified parts of its dimensions.[14]

2. CONTENT OF THE MINOR

In order to build a content plan for a minor a structure is needed. The continuously developing nature of sustainability requires a structure or framework that helps in bringing focus without doing violence to the multidisciplinary nature of the sustainability discourse.

To this scope the proposed minor is designed around the sustainable hospitality value chain. This value chain is an adjusted representation of Porters Value chain combined with the Supply Chain for Physical Goods and the Three Levels of Sustainability framework[14]. This section explains the main aspects of the involved frameworks.

2.1. Value chain

A value chain is a network of strategic relevant processes that add value to an organization[16]. Porter's value chain makes a distinction between primary and supporting processes, mainly directed on adding financial value. His model is adapted and used by many industries and service providers and it plays a significant role in higher education curricula of business and economic schools. The importance of this value chain is that it provides organizations focus on where to add value.[16]

2.2. Sustainable Supply chain for Physical Goods

Next to adding value to processes in hospitality businesses, goods that are processed in a hospitality company, add value. The network modeling the flow of goods is called a supply chain. The challenge of sustainable supply chain management is the balance in reliable and prompt customer delivery with inventory and production costs. Next to this costs social and environmental impacts of partners need to be taken into consideration when developing process improving strategies[17].

Vermeulen makes a distinction between three generations of supply chains, the first generation is the single-firm sustainable supply chain, and it adapted environmental and sociological criteria in their processes[18]. A great disadvantage of the single-firm supply chain is the limited power and the inability to fund control of their supply chain partners. The second-generation in the sustainable value chain is the joint product sector approach, where the development for reducing problems in transaction costs and reliability were controlled and monitored by external companies and organizations. The last approach is the cross-sector approach; this third-generation of sustainable supply management extends its processes beyond products and sectors and tries to be as sustainable as reasonably achievable.

The network of value-adding processes can be viewed from different stages (suppliers, manufacturing, distribution, retailing and recycling). Since organizations are getting more and more environmentally involved, manufactures design products that can be recycled. The information stream in the supply chain floats in the opposite direction of goods and is used by manufactures to plan production and avoid spoilage of goods which in the end adds sustainable value to the design of services and goods.[19]

2.3. Three Levels of Sustainability Framework

With the introduction of the Three Levels of Sustainability Framework (TLS) E. Cavagnaro and George Curiel try to *"address at least some of the weaknesses inherent in a fragmented approach in the debate on sustainability."*[14]This multilevel and multi dimensional framework aims at connecting sustainable development, corporate social responsibility, and personal leadership (see Figure 1 below). These constitute the three levels in the framework and are described as sustainable society, sustainable organization, and leadership for sustainability. The interrelation between the three levels is evident since sustainable society cannot be realized without sustainable organizations and individuals.

Each level has three dimensions: an economic; a social and an environmental one. At the level of society the three dimensions are the responsible economic growth, equitable social progress, and effective environmental protection. On organizational level the TLS framework borrowed the concept of the triple bottom line of John Elkington[6]. In his book, *Cannibals with Forks,* the author describes sustainable organizations as organizations that attempt to add value to three dimensions: people, planet, and profit. These dimensions are related to the dimensions of sustainable societies. The last level in the TLS is the level of leadership for sustainability. While the two before mentioned levels are extensively debated in the academic literature, sustainability on an individual level was not yet properly described or related to the

organizational and societal level. In the book *Three Levels of Sustainability*, E. Cavagnaro and G. Curiel describe leadership for sustainability with three care dimensions. The 'care for me' dimension can be associated with the value of an individual human life and can be related to the profit dimension in the sustainable organizational level and responsible economic growth in the sustainable society dimension. The 'care for you and me' relates to inter-human relationship and the values of these relationships; the relation with people and equitable social progress at the tow other levels is evident. The last dimension is 'care for all', this means care for all living creatures and the universe and is interrelated with the planet and effective environmental protection found in the levels above. A true sustainable leader, according to the writers, is one that can create value on all three dimensions of care. That will make him a potential leader, a future change agent, which can lead the transition towards sustainability.

Figure 1: **Three levels of sustainability framework**
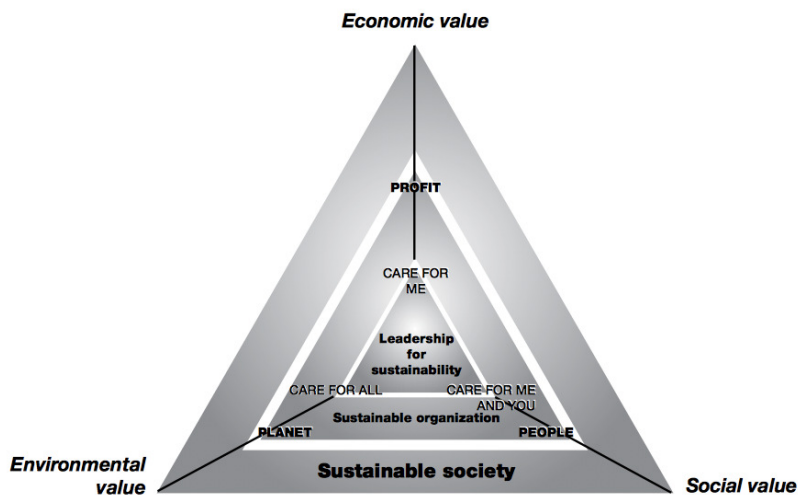
Source: http://www.greenleaf-publishing.com/content/pdfs/3levels_intro.pdf

2.4. Sustainable Hotel Value Chain

When combining Porter's value chain, the supply chain and the TLS framework with the focus on adding value on social, environmental and economic dimensions a different, even more holistic model appears. Being challenged by sustainability problems the approach is not only by processes, goods or services but also by a combination. During his keynote address to the 2012 EuroCHRIE congress in Lausanne, professor Guido Palazzao showed a scheme with quadrants that explained four possible parts where hospitality businesses could add value. In the design of the minor sustainability for hospitality management this scheme was further specified and extended by the TLS framework that would foster the need and put focus on adding

sustainable value, in the opinion of the writers of the minor, to this hospitality value chain.

The 1st quadrant is distribution; before guests, employees, reservations and even products used in the hotel, enter the hotel premises it travels from one location to another.

The 2nd quadrant contains buildings, equipment and technology in which hospitality businesses can add sustainable value to. Special in this quadrant are the efforts in the discussion and design of fully sustainable hotel rooms, or cradle-to-cradle rooms.

The 3rd quadrant consists of the purchasing processes, contacts with vendors, again transportation of goods to suppliers, words matching this quadrant are: organic, local, national, international

The last quadrant focuses on operations and processes within the hotel operations, comparable with the part operations and human resource management in Porters Value chain.

To add sustainable value to all the quadrants as reasonably achievable an analysis of all processes and product flows needs to be obtained in order to advice real world companies with sustainable challenges.

Figure 2: **Sustainable hospitality value chain**
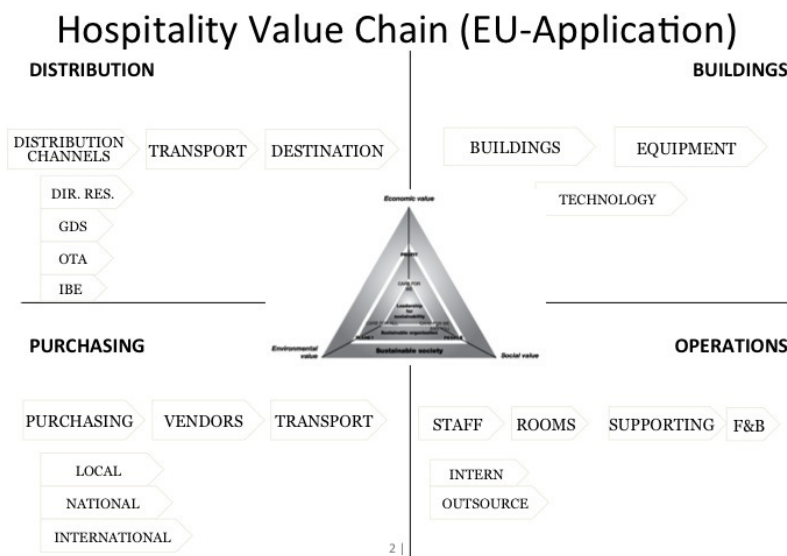
Source: Free from G. Palazzo (2012) by Research group in Service Studies (Stenden UAS).

3 LEARNINGIN THE "REAL WORLD"

Teaching and learning are as the two sides of a coin. The way good teaching is measured is on the amount of what has been learned by the students. The model given in the previous paragraph can help an educator to improve and structure the gained knowledge, skills and attitudes of the students. Still, the students need to put effort in their learning.

Learning is in basics the way of acquiring knowledge, skills, behaviour, values, preferences and even synthesizing different types of information.

Learning does not take place compulsory but is a contextual process that does not happen at once, but builds upon what we already know. Bloom[20] describes the educational objectives in three domains: cognitive, psychomotor and affective area. The goal of Bloom was to motivate educators to a more holistic approach of education.

Acquiring skills in the cognitive domain revolve around the acquisition of knowledge, comprehension and critical thinking on a specific topic. The traditional education emphasizes the skill needed in this domain, especially Blooms' lower order objectives.[20]Morshead and Krathwohl[20] discussed that the taxonomy of Bloom was not structured to its use, this because of the fact that educators are dismissing lower levels of the taxonomy, as they were unworthy of teaching[20].

In learning by humans may occur in four different occasions, by education, personal development, schooling and training. Education and schooling are almost similar since they both focus on the cognitive dimension of Bloom. Still education can be done everywhere while schooling takes mostly place in a classroom. The learning style of someone is a pattern influenced by his nature or habit, which is used in acquiring and processing information in learning situations. Individuals differ in the way they learn. To gather knowledge and skills we best can use Kolbs model simplified by Peter Honey and Alan Mumford.[21]

Kolbs model is based on the Experimental Learning Theory. The idea of this model is that it outlines two related approaches to grasping experience, concrete experience and the one of abstract conceptualization, towards two transformational experiences, reflective observation and active experimentation. For an effective learning style a student should acquire all four ways to gain experience. But they tend to develop strengths towards one experience grasping and one transformational experience[16]. Honey and Mumford changed the model of Kolb to a more practical use for managers. They changed two things; the names of the stages and the direct link to the stages in the cycle.

Figure 3: **Kolb's adapted model by Honey and Mumford**
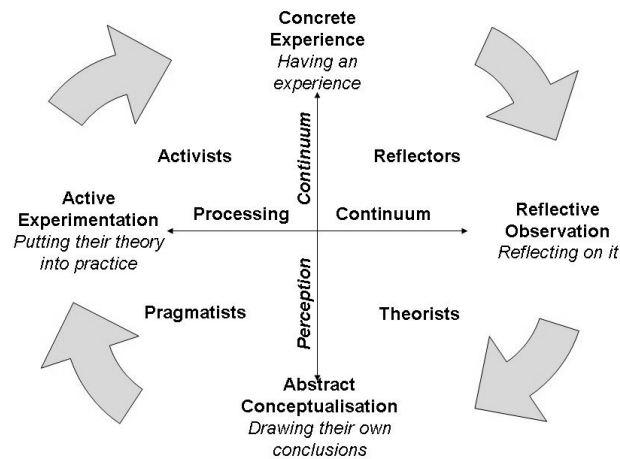
Source: Honey P, Mumford A. *Manual of Learning Styles*. London: P. Honey; 1982.[21]

In order to give hospitality management students the knowledge and skills to become change agents that are sustainable proactive, a life long learning approach needs to be developed [22]. Lifelong learning concept in education focuses on the sum of all parts. In education there is not a part that is not lifelong and so lifelong education is a principle that forms the founding of all components of an educational organization and so of all courses [23]. The lifelong learning concept got its structure in 1996 when Jacques Delors's "*Learning: the Treasure Within*" where he presented four pillars need to use in understanding other people in the world[24].

1. Learning to do, this can be explained as work based learning
2. Learning to know, when describing education in sustainability, it must be guaranteed that the cognitive, affective and aesthetic dimensions are not thought separately.
3. Learning to be, involves social practices knowledge and understanding. A student learns to predict and realize the impact of decisions on social justice, political consequences and ecological values.
4. Learning to live together, this has to do with sustainable leadership where students learn and work together in order.

Longworth and Davies write that *'lifelong learning is development of human potential through a contiguously supportive process which stimulates and empowers individuals to acquire all the knowledge, values and skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances, and environments.'* [22]

4. TEACHING METHOD

The proposal of the teaching method for the minor sustainability in hospitality management is based on a constructivist perspective on learning. Constructivism as an educational method, is built on experiential learning by experience to construct upon prior knowledge[25]. The educational method primarily used at Stenden UAS is problem-based learning. This constructivist-oriented method has its history in medical schools. It was first used in the medical school program at the McMaster University in Canada. Howard Barrow and his colleagues found that the three founding years disappointed the students, since it had no relevance to the practice of medicine or clinically based medicine. The problem based learning curriculum was designed to increase the motivation of the medicine students towards learning. It also increased the awareness of the importance of learning, and trained the students to acquire the attitude needed in roles they have in the future. Next to the increase of motivation, the students learn to show responsible and professional attitude they need in their future carreers[26].

Problem Based Learning promotes lifelong learning and can be seen as a constructive way to collaborative and self-directed learning, fostered by instructions from a tutor. This way of learning by scaffolding increases the explorative attitude of a student[27].

The process of PBL, usually called the 7-step method, can be summarized in four main steps[28]:
1. Problem acquisition, a problem is presented and by discussion members of the group activate their prior knowledge
2. Through analysis of the problem and possible theories or hypotheses the members of the group try to explain the problem. Together the group finds learning objectives and issues to be explored. A model is constructed that can help to explain the problem. The tutor provides the students with possible links to find information that the students can use to build knowledge concerning the problem.
3. After the group session students work individually or in groups in self directed study to explore the problem and learning goals.
4. The group comes together to discuss the finding of the group members and improve their first theories and hypotheses.

As mentioned before PBL builds upon prior knowledge and tries to construct knowledge and skills by doing and self exploration rather than the more classical approach to teaching.

This teaching method is the basis of the method proposed for the minor. The "Pressure Cooker Method" is an extensive group work assignment in which a group of students solve a problem, given by an organization in one day. The week before this "Pressure Cooker" day students are scaffolding knowledge through workshops, field trips into the "Real World" and by lectures. The aim of this method is to enhance trans-disciplinary education with the goal to shape sustainable change agents with the competences needed for sustainable leadership[142].

The "Pressure Cooker" consists of 3 steps:

1. **Building pressure**, close the lid: A problem is handed out to four groups of students by a organization facing this challenge in the morning. The groups are requested to analyze, research and solve the problem by offering a set of solutions that are as sustainable as reasonably achievable; with the outcome of an advice; and by giving their advice to the company.

2. **Boiling**: The groups are challenged to solve the problem and use all materials and resources they can put their hands on. They may contact the organization to request for more information, they can use the library and full text databases to explore, analyze and solve the problem.

3. **Opening the lid**: In this stage 4 groups give their advice to the jury consisting of members of the organization facing the sustainability challenge and members of the educational team. After the presentation a management report containing the advice is handed out to the company and educators. This jury will select a winning team that offer the solution that adds the most value on a economic, social and environmental dimension and offers a suitable and feasible solution to the company.

The Pressure cooker meets most of the criteria set by Rowe in his paper in 2007 for education for sustainability.[29]

– Bring an actual sustainable problem to sustainable education, preferably brought by industry partners, or affiliate organizations.

– Give the students the chance to use concepts and methods learned to analyze and solve the sustainability challenge;

– Involve experts as well as educational staff known with the field of sustainable research, as well as members of the community, business, administration, to develop a scientifically sound and socially robust solution or approach.

– The outcome is a sustainable solution that is reasonably achievable and can have a positive impact on individuals, organizations and the universe.

The proposed minor module consists of 8 consecutive weeks, in total this "Pressure Cooker" day is performed three times.

The proposed minor sustainability for hospitality management consists of three blocks focusing each on one quadrant of the before mentioned sustainable hospitality value chain. With this idea the writer focuses to shift learning perspectives from "for the community" to "with the community" towards the notion of "mutual learning."[30]

5. CONCLUSIONS AND REFLECTION

This paper explores a teaching method that possibly can increase mutual learning with the "real world" and contribute to the improvement of sustainable education in higher hospitality management by trans disciplinary education[3]. With the "Pressure Cooker" method embedded in the design of the minor Sustainability in Hospitality Management at Stenden Hotel Management School, the objective is to contribute to the creation of future sustainable, life-long-learning change agents that own the knowledge, skills and attitude that leadership for sustainability requires.

Advanced systems thinking, explained in the previous chapters is fostered by this new, sustainable perspective on the (hospitality) value chain where adding sustainable value on the four quadrants is requested and a teaching method that combines the scarcity of time with the need for sustainable solutions to "Real World Problems".

Since this form of sustainable education is in its primary stage, data, that can be used to explore the possible success or failure, need to be acquired. Therefore, this paper is proposed for feedback from the industry partners and colleagues present at the conference.

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