Innovative Catering – Ecological and Visionary Service Innovation

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An Abstract

Innovative Catering is a research, development and innovation project that involves HAAGA-HELIA University of Applied Sciences, Finnish hospitality industry and the industry’s technology and appliance manufactures. The objective is to build an experiential restaurant concept. The aim of this paper is to describe the restaurant concepts on Innovative Catering and the visionary and technological phenomena involved into project’s construction and illustration. Innovative Catering will be implemented as an action research co-operation in three phases between researchers, specialists and corporate networks in addition to university students. The Innovative Catering project embarks on building three eco-intensive experiential catering production systems and distribution channels at Helsinki, Hong Kong and Levi (Finland). The final result of the paper and the goal of this project will be a four-dimensional Innovative Catering model as well as a new experiential and catering production and distribution channel produced in co-operation with trade experts, business networks and industry’s university students.

Key words: Service innovation, catering, action research, restaurant concept
1 Context, notions and premise

Innovative Catering is a 3-year international and cross-sectional research, development and innovation project co-ordinated by Haaga Campus of HAAGA-HELIA University of Applied Sciences including Hospitality industry, design and entertainment industry, catering technology, food industry and appliance manufacture companies plus VTT Technical Research Centre of Finland and FINNDEX as research partners in order to build eco-visionary restaurant concept and a dynamic service space.

Current catering production is based on cost-effective purchasing, production and distribution processes and rests mainly on two service solutions: self-service or service at tables. However, the problems for our restaurant business include the diminishing of service demand, low specialization, narrow development in restaurant and catering environment and weak utilization of environmental technology. The starting point for the study is a desire to construct a new operative concept for restaurants by aiming to change traditional, rather static, service system of restaurant and catering units and developing and innovating servialization. Innovative Catering seeks...
to find and build versatile and flexible operation models. At the same time, we wish to raise the innovation rate of catering and help restaurants, architects and building trade to construct new customer-oriented, technology-oriented and eco-oriented and dynamic catering concepts.

By innovative and dynamic catering we mean operations and restaurant units which are selling, in addition to food and beverage products, also experiences and flexible service spaces, i.e. PR and dining and socializing facilities and meeting rooms. By eco-visionary restaurant concept and its micro worlds we mean here new eco-oriented service planning; food, beverage, wellness, meeting and entertainment products and solutions based on restaurants’ milieu, appliances, lightning and sound technology and ubiquity. By flexible service space we refer to interactive environment and content provided and catered according to time, space, customers and their demands.

The objective of this presentation is to construct tomorrow’s environmentally conscious Innovative Catering restaurant concept and describe its production processes and micro worlds through 4 D modeling. The purpose is to deconstruct and reconstruct traditional food and service operations and apply ecological and technological solutions to restaurant environment. Ecological construction means the R&D&I on the services within hospitality trade. Deconstruction means dissolving the traditional operative models and service processes in catering business – especially within congress centers and lunch restaurants. Reconstruction – or rather eco-reconstruction- refers to rebuilding environmentally conscious service processes and applying environmental technology and innovations to catering production and distribution.

The second objective for our action study is to foresee and analyze operative models of Innovative Catering researching thus customer behavior and changes in hospitality business foresight. By hospitality business foresight we mean building the future according to linear and non-linear phenomena, i.e. in face of dynamic, even hyper cyclic, market changes. In socio-constructive foresight thinking it is a question of anticipating, building up communal and open interaction. Business mindedness and anticipation are visible in this study first and foremost by applying technological and eco-intensive product innovations and services for tomorrow’s restaurant space in such a way that productivity and sales will grow, expenses will lessen and competitive edge will strengthen.

Our third premise for our presentation and project is the growing trend for the significance of entertainment industry and the consumption of experiential services. Traditional micro worlds, like food and beverages, will be replaced and/or complemented by experiential and ecological elements. We presume that restaurants will
continuously lose customers and sales to other wellness and entertainment consumption, for example, to movie theaters, wellness services, sports and culture events and media. By experiential elements we mean especially the psycho-physic experiences offered by Innovative Catering. Thus our hypothesis is that Innovative Catering will convert into ever more significant distribution channel for fashion, trend, experiential and lifestyle products.

Our project with Haaga Campus at HAAGA-HELIA University of Applied Sciences is international with partner educational institutes and it is linked to three similar and simultaneous Tomorrow’s restaurant projects in Breda, Hong Kong and Levi, Finland. Our common goal is to build new restaurant concepts where one applies cross service innovations that will question traditional boundaries between different industries and processes. At the same time Innovative Catering will integrate to product innovation projects of food, beverage, computer programmes, appliance and cleaning technology and kitchen appliance manufacturers.

2 Research frame

Objectives and methods

The objective of this paper is to construct Innovative Catering concept and restaurant service innovation in order to pursue to change and even partly pull down i.e. deconstruct traditional food and beverage service production and product worlds by reconstructing three eco-visionary operations models and service worlds which can be adapted to domestic and foreign tourism, commercial and educational institute and cultural center restaurant environments. The goal is to create experiential service environments where one utilizes ecologic and technologic product innovations. The researchers, experts and above else students, will create 4 D model of Innovative Catering environment, where one describes customer and consumer behavior in restaurant milieu, introduces multi-sensory service spaces and tests their usability and interest value with restaurant professionals before building up the actual premises.

The essential research questions are

a) What factors involving service demand and supply, be it visionary, consumer behaviorist, productive, operational, design, ecological and technological, should be taken into consideration when building a dynamic restaurant concept?

b) What experimental factors should be taken into consideration when planning and implementing micro worlds so that a given space would provide added value to customer and enhance the competitive edge of the trade?
c) How can one model restaurant concept as well as customer and consumer behavior with 4D?

d) How can one combine the existing innovations and give birth to new coalitions with actors of the industry?

e) How to benefit restaurant space as a distribution channel for experiential, lifestyle and wellness industry products?

Research premise is a combination of planning three modules

1. Back Kitchen (abbreviated Back) i.e. kitchen and food processing module which consists of, among else, from storage, appliances, ventilation and heat recovery solutions

2. Front Kitchen (abbreviated Front) means a product and catering module where the concept is monitored. The space functions as a reception for customers as well as a location for orders and sales.

3. By Micro worlds one refers to experiential, multi-purpose and multi-sensory dining and socializing plus meeting facilities that can be varied according to needs.

FIGURE 1. The research premise.
The experts for the project include, among others, professional and students from several branches: tourism, catering, wellness, building, design, food industry, appliance manufactures and technology.

The theoretical approach for our research, development and innovation project is based on Jensen (1999), Ottenbacher & Gnoth (2005) and Pine II & Gilmore (2001) studies on integration of trends and models of experiential industry as well as Mager (2006) Koskinen’s (2009) articles on service design. The eco-centric service planning is based on the application of Horelli’s (1981) notion on space where restaurant forms a socio-spatial, proxemic (close surroundings) and a distemic (public surroundings) contextual forum.

The whole project will be followed through multi-methodological action research and foresight. The action research consists of basic and applied research on restaurants’ operational environment and customer and consumer behavior as well as innovating and developing core business areas. The action plan manifests itself in individual and participative acts: meetings, analyses, surveys, study assignments, thesis, innovative workshops (‘inno jamming’), interviews, questionnaires, document analyses, ethnographic methods (video, photography, trend scouting, study trips), usability panels and service design trainings (Holmlid & Evenson 2006; Mager & Gais 2009). The results will be construct out of open co-operation between expert and business networks and students within the trade in such a manner that all operative models, modules and material are developed by all participants (Stamboulis & Skayannis 2003; Sundbo & Gallouj 2000). Social media will be used as building and distribution channel for knowledge and modeling. Simultaneously an expansive strategy will arise and thus help the duplication of the results of Innovative Catering project to other locations.

The project is implemented in three phases:

I Start-up: Innovative Catering preliminary survey and market analyses, 2009

II Modeling: Innovative Catering 4 D modeling, 2010

III Implementation: Building three Innovative Catering restaurants, 2011

In phase I one has executed extensive trend descriptions, business insight on tourism, hotel, restaurant and food industry and used business foresight on the trends for experiential and conference business (Heikkinen & Kortelampi 2009; Hulten 2009). The main documents are scientific domestic and foreign articles published between 2001-2009 on tourism, conference, catering, and design and entertainment industry discussing the

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future of customer and consumer behavior. The consumer arguments on eco-visionary notions and experiential services are based mainly on academic presentations, articles and publications on experiential business (see. among others Inkinen 2009; Jensen 1999; 2009; Heikkinen & Kortelampi 2009).

Innovative Catering is foremost an open, customer-oriented and interactive innovation. The preliminary ideas, objectives and results of the research project have already been introduced in several occasions. Jouni Ahonen (2009) has presented the project and collected feedback from circa hundred domestic and foreign experts in hotel, restaurant, technology and food industry. Heikkinen (2009) has organized five innovative workshops with students of HAAGA-HELIA University of Applied Sciences, University of Lapland and Krems University of Applied Sciences in which trends, changes in customer and consumer behavior and product processes have been described and foreseen. Risto Karmavuo (2009) has held a lecture series for students at HAAGA-HELIA University of Applied Sciences and at Hong Kong Polytechnic University and developed with them Innovative Catering service innovations.

In 2010 a 4 D model was built on the restaurant concept. The model was constructed with the help of market analyses and by developing innovative and potential consumer paths with participants in restaurant environment. The consumer paths representing customer and consumer behavior were scripted and virtualized in November 2009-February 2010. The feasible paths were tested by HAAGA-HELIA and Haaga Campus students and experts. At the same time one constructed and illustrated a restaurant kitchen and food processing module (Back), a customer reception, customer relationship management and ordering and sales system for food services (Front). Thirdly, one builded a model of three catering environments i.e. micro worlds where customer can order before-hand according to his/her needs and where he/she can settle in with his/her company to enjoy the services. Innovative Catering was tested in Helsinki in March at 2010 Gastro Fair where 4 D simulations and surroundings was viewed through 4 D spectacles. The professionals familiarizing with Innovative Catering model were questioned and innovative and operational proposals were gathered to improve the concept.

In 2011-2012 one actually builds three Innovative Catering restaurants to Helsinki, Levi (Finland) and Hong Kong. A Finnish architect office Archeus will make plans for Back and Front models and micro worlds to three locations according to 4 D models and the expert feedback and answers from questionnaires. Three versatile, eco-visionary and intelligent restaurant spaces will arise. A multi-sensory reconstruction and showroom for different product innovations and different service worlds. There will be production and distribution channels and restaurant construction for experiential contents. There is a vision that, with the help of experts and students,
this will give birth to operative concept which can be spread out to international tourism, commercial and
entertainment centers.

3 Results and reflection

3.1 Background of the Project

Innovative Catering got started in 2003, when V.A. Heikkinen and Jouni Ahonen started to plan with designer
Margit Sjöroos (2003) different type of a restaurant and an alternative concept for restaurant operating at fairs
for the 2004 Gastro Fair in Helsinki. The objective was to create StressFree Café i.e. a tranquil oasis, where
negative sensory stimulus was diminished by paying attention to, among others, low-decibel sound landscape,
indirect lighting, soft decoration forms, healthy food and genuine hospitality. At the fairs, we had a peaceful
testing milieu which could then be adapted for example to school restaurants, for corporate uses and to
commercial centers.

StressFree Café continued at 2006 Gastro Fair when Haaga Campus experts and lecturers built a flexible and
innovative meeting room, which worked as a seminar space, as a stand and as a showroom. In 2008 a lecturer
from HAAGA-HELIA, Ari Björkqvist planned for Hotel Haaga two versatile and eco-visionary hotel rooms
with groups of experts and students (Björkqvist 2009). Behind the spatial planning, experiments and testing there
lies a need to develop conference, restaurant and hotel premises and to build them into multipurpose and
versatile so-called Flexi Space solutions (Heikkinen 2009). Flexi Space projects have seeked to demonstrate to
Finnish accommodation and catering trade and furniture and ship building industry how traditional conference,
hotel and restaurant premises and its products, sales and services can be developed.

Especially one should mention two hotel rooms constructed at Hotel Haaga: eco room and the other one, using
intelligent technology have raised a lot of interest and their usability has been researched. The planning and
building process has been reflected. Rooms have been bench marked, the customers and experts on hospitality
industry have given evaluative suggestions and students for the Master of Hospitality Management have
supported ideas for new applications.

Every project has been launched with a combination of high-level international Future of Hospitality seminar
targeted for chief executives in the field. The themes have been the future trends within the trade, service
innovations and the new concepts. In additions to above-mentioned actions the project managers have worked
together with experts and students to gather volumes of information supporting the construction of the facilities: statistics, phenomena on products, services and merchandise.

3.2 Innovative Catering project

The actual Innovative Catering project started in 2009. The initial phase involved project allocation and different customer analyses and foresight of the operational environment. One specified the project’s objectives and the contents and the methods were defined and the resources were allocated. With the help of document analyses an extensive service-oriented customer research material was collected including accommodation, restaurant and food industry environmental analysis. In addition one anticipated the changes in the environment and consumerism with the help of expert lecturers, study excursions and workshops plus with current future scenarios.

The key results from phase I were that considering the changes in operative environment many linear and non-linear phenomena will affect it as well as many simultaneous and opposing factors (table 1 and 2). Linear, slowly changing and predictable phenomena are for example operative environment and culture and earnings models within domestic accommodation and catering business. Finnish markets are and will remain small and predictable. Non-linear phenomena are the the complexity of market and the fragmentation of catering business and its clientele. The accommodation, entertainment, restaurant and food markets in Europe and especially globally are more dynamic, even hyper cyclic. What hinders the predictability on consumption in entertainment, wellness, and food and beverage products is that the consumer is partly a chameleon whose purchasing power and the use of time, his/her taste and choices will vary more and more.

The most important megatrends in the industry are:

a) climate change

b) globalization

c) polarization of people and their ageing
Table 1. Non-linear drivers (Aaltonen 2007; Heikkinen 2009).

<table>
<thead>
<tr>
<th>Non-linear drivers</th>
<th>How it is seen within the trade?</th>
<th>Influence on Innovative Catering</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Finnish markets</td>
<td>Domestic chains and SME are strong</td>
<td>Conceptualization together with other chains</td>
</tr>
<tr>
<td>2. Earning logic</td>
<td>Basic concepts, economy of the bigger units</td>
<td>Simple, straight-forward concept</td>
</tr>
<tr>
<td>3. Operational culture</td>
<td>Service-centered production in entertainment</td>
<td>Customer-oriented, experiential concept</td>
</tr>
<tr>
<td>4. Professional structure</td>
<td>High turnover of staff</td>
<td>Simplified processes</td>
</tr>
<tr>
<td>5. Tradition for handicraft</td>
<td>Mentality of the chefs, hospitality issues</td>
<td>Use of different service ratings (serving at tables, self-service, automatics)</td>
</tr>
</tbody>
</table>

Table 2 Unpredictable drivers (Aaltonen 2007; Heikkinen 2009).

<table>
<thead>
<tr>
<th>Fast drivers</th>
<th>How it is seen within the trade?</th>
<th>Influence on Innovative Catering</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Climate change</td>
<td>Green strategies, energy saving programmes</td>
<td>“Green” concept</td>
</tr>
<tr>
<td>2. Dynamic economy</td>
<td>Hyper cyclic market changes at Euro level</td>
<td>Flexi Spaces</td>
</tr>
<tr>
<td>3. Complex markets</td>
<td>Competition over customers and capital becomes harder</td>
<td>New processes and products</td>
</tr>
<tr>
<td>4. Fragmented markets</td>
<td>New entrepreneurs, concepts, immigrant entrepreneurs</td>
<td>Optional, experiential concept</td>
</tr>
<tr>
<td>5. Rationalization of the processes</td>
<td>Top conceptualisation, rationalization</td>
<td>Rise in innovation degree</td>
</tr>
</tbody>
</table>

The development of eco-visionary concept is combined with permanent and recognizable phenomena alongside with non-predictable, non-linear factors of change. When building Innovative Catering and rooting it into Business Foresight thinking it is crucial to retain a sense of proportion and skills to distinguish international and local drivers for change and both solid and dynamic and rapidly shifting hyper cyclic markets.

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From the results of literary studies, expert presentations and our workshops on future studies it is anticipated that catering services will become more versatile and environment-conscious, wellness-oriented and experiential services will grow in importance because traditional sales of food and beverages in restaurants does not seem to grow in Scandinavia (cf. f.ex. Inkinen 2009; Jensen 1999; Heikkinen 2009).

With the help of workshops, study excursions and literary analyses alongside with research material one constructed Innovative Catering restaurant concept by dissembling traditional food and beverage service processing and product worlds by reconstructing three laboratories of eco-visionary operative models and service modules:

a) Back Kitchen
b) Front Kitchen
c) Micro worlds (appendix 1)

Back Kitchen is a mobile space for processing food. It constitutes a movable module which can be shifted according to customers’ needs and to various occasions. When planning the space one strived first to benchmark typical fast food or casual restaurant concepts which have duplicated their processing kitchen. There the concept guides the menu, the appliance assortment, purchasing, quantity on produce and storage room, the processes on production and purchase.

Innovative Catering in itself is not bound to one single formula of production but it adapts to different food worlds and products. The goal is that the fluctuating demand of food and beverage will guide menu and purchases. The production of food aims at the use and utilization of fresh, functional and low carbon dioxide raw materials in catering. The traditional kitchen processes and its capacity have been optimized in such a way that purchases, pre-preparation and production are timed exactly according to demand and prognosis of consummation.

Kitchen consists from intelligent multi-task appliances like from Self Cooking Centre and fridges in such a way that with one appliance one can produce as much as possible. Appliances have nano-technological surfaces which are easy to clean, even self-cleaning. There will be no waste; the entire surplus will be recycled.

Front Kitchen module offers catering services from which customer can choose from and order and buy suitable portions of food and beverage. The space functions as a reception for customers, orders and sales. The space works as well as so-called showroom for presenting and distributing many products.
Front uses ecological and technological product innovations. Cash register will get connected with customer recognition and personification, customer relationship management and key customer programmes. Buffet service is top-scale in nanotechnology. The temperatures of storages and products will be registered into database for self-monitoring; recipes and product information can be downloaded into mobile phones. The food products will be stored either in biological or antiseptic packages. The products can be paid by mobile phones or by digital vouchers.

MicroWorlds are multi-sensory dining & socializing environments and conference worlds where customer can whisk up with his/her company a space, sound and lighting landscape of their choice. Micro world is suitable for example for lounging, hanging around, meeting, briefing, innovating and strategic decision making according to occasion and situation. Micro world can room up to 10-25 persons.

Typical micro worlds are for instance WooDo, TeChno, Spirit, and St’One of which we have described wooden micro world WooDo (cf. appendix 1). Typical Finnish forest ecotype has been photographed during different seasons and pictures are downloaded to picture bank. With the database one can transfer different seasonal phenomena into pictures: Finnish wildlife, typical fauna of that ecotype and people moving in forests. People are walking around; some might be Nordic walking, picking berries and mushrooms, taking photos, studying, looking for the prints from animals and even hugging trees. With an American GPS location devices one can link into the photo real time pictures and specific pictures of natural phenomena on the flora and fauna of the area. In addition some virtual figures, like mythical characters and places of cultural and historical importance, some sacrificial stones, will be placed into the digitalized forest to enhance the experience.

Digitalized forest will become one background providing impulses and naturalistic experiences in the micro world which at the same time esthetizises, symbolizes and represents the mood of customers.

In early spring 2010 one constructed and illustrated Back and Front for the first time at Gastro Fair for international presentation and launching. Innovative Catering environment consists of 4 D simulation viewed through 4 D spectacles. At the fair, professionals familiarizing with Innovative Catering model were surveyed and innovative and eco-centric suggestions were gathered in order to develop the concept further.

The second phase of the project will continue so that one develops build-up modules - constructed for customers’ potential and alternative consuming paths - and product worlds according to gathered feedback. The first consumer paths presenting customer and consumer behavior were scripted on the project website and e-learning environment Moodle. The professionals for digital photographing will virtualize further more paths. The
modeling will be continuously tested by students and experts and guest lecturers of HAAGA-HElia University of Applied Sciences and its research partners.

3.3 Phase III and discussion

In 2011 – 2012 three real-life Innovative Catering restaurants will be built at Helsinki, Hong Kong and Levi (Finland). Finnish architect office Archeus will concretely plan Back and Front modules and micro worlds into above mentioned locations based on 4 D models, surveys, expert feedback etc. Three versatile, eco-visionary and intelligent restaurant premises are born in different variations: the Helsinki location is a restaurant situated at an educational institute, Levi is a center for tourism and the Hong Kong restaurant is a Scandinavian restaurant FINDS at Wyndham Street. With the help of different service worlds a multi-sensory reconstruction and showroom will form a platform for sales; among others, perfumes, functional food, energy drinks, wellness capsules, mini products, local handicrafts, miniature consumer games, musical experiments, modern fun & games, children’s video installations etc. This will function as production and distribution channel for experiential content where one sells for instance different multi-sensory micro worlds and the services of animators. With the help of experts and students one refines the operative concept which can be duplicated to international tourism, commercial and entertainment centers.

The objective of Haaga Campus is to continue the building and modeling in such a way that the scientific approach rests on action research. We wish to further enhance cross-innovation, usability testing over internet, promote innovation and applications for pedagogical and visionary solutions.

Students and experts will calculate the earning logic and models, profitability of the products and operational productivity of Innovative Catering’s product worlds. They will make investment calculations and evaluate costs and expenses. At the Marketing and Conceptualization lecture series students will build an operational model and, above else, the manuals, for Innovative Catering. At the lecture series of Consumer Behavior one studies and develops consumer paths, decision-making paths and product sales and experiential marketing.

Innovative Catering is above else, an open innovation and research platform so its objectives, methodology and results will all be handed out openly for evaluation. The results will be presented at regular intervals at project’s website as well as in domestic and foreign seminars and events. A special importance is to be given to R&D workshops held for catering executives and view-points raised in them.
Our project services domestic and foreign catering, especially those small and medium-sized companies which have not possibilities to develop their product and services. The project results can be spread out also to international tourism, commercial and entertainment centers through the co-operation partner universities from the Netherlands and Hong Kong and with our partner companies E.Ahlström, VTT, FINNDEX, Hartwa-Trade, Metos, Select Service Partners, Valio and Iittala. It is essential that each partner reconstructs and transfers product and service innovations to its own catering units. In the co-operational and foreseeable development of Innovative Catering it is a question of strategic intelligence where future is not invented but built.

Appendix 1  4 D model

References


