

APPROACHING LEAN MANAGEMENT WITH ETHNOGRAPHY

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Abstract

Lean management is an approach that has made a revolution in several industries. The measurement of its applications comprises several quantitative approaches. However, the exploration of the Lean phenomenon lacks of qualitative perspective. Therefore, this research investigates the possibilities of ethnography as a new metric to determine the level of leanness of an organisation. The paper explores related approaches throughout the different current sources in the body of knowledge. It uses the Web of Science data base and other key literature. The examination of these sources and the specification of the measurement of organisational leanness determine a new approach. This particular approach focuses on the ethnography at an automotive company and non-automotive company. The expected results of the application of this model explore the soft side of the level of leanness in the organisation. Although, the use of ethnography is new in Lean management, it opens new possibilities to understand the behaviour of the people about the organisational leanness.

Key words: Ethnography, Leanness, Lean Management

JEL Code: M10, L60, L80

Introduction

The automotive industry comprises most of the examples of application of Lean management. Other industries also implement this methodology. The measurement to determine the success of these applications are quantitative. Moreover, there is still an unexplored side of the lean management: The level of leanness from the qualitative perspective. People is a key component of the Lean application. The Toyota Production System (TPS) principles includes aspects such as philosophy, teamwork, leaders, in site knowledge and others (Womack, Jones, & Roos, 1990). These aspects are highly related with the people at processes. Consequently, it is important to explore the level of leanness of an organisation from the point of view of those who perform the lean results.

This new perspective of understanding lean requires a strong approach. Ethnography provides an extend approach that allow researchers to observe the phenomena and construct the reasons that determine the behaviour of the people involved in an organisation (Hegelund, 2005). Therefore, this paper investigates the current use of ethnography to research lean management and it proposes a specific approach to conduct a research on the field.

1. Lean, leanness and ethnography

The Lean concept arises from Toyota Production System (TPS) (Womack, Jones, & Roos, 1990). The system includes several tools (e.g. Kaizen, Kanban, 5S or SMED). These tools use quantitative metrics to provide solutions for specific improvement projects. They usually measure Lean by cost or time reduction (Hines, Holwe, & Rich, 2004). Moreover, the review of the lean history shows of three parameters: Value, Cost and Waste. This is, that lean is not just about cost reduction. Instead, it is about value creation by reducing waste (Hines, Holwe, & Rich, 2004). The continuous improvement of these implementations allow the organisation to excel. Then, the concept of leanness includes Value, Waste and Continuous Improvement. An organisation with high level of leanness creates higher value to customers with lower level of waste within a continuous improvement environment. Moreover, the level of leanness varies within the same firm. The shop floor shows high level of leanness but the overall organisational leanness level is lower because the leanness level of its administrative processes is poor.

Although there are specific measurements to determine the performance of each solution, an overall measurement of the level of leanness is still inexistent in the body of knowledge. The extension and complexity of this task derives in the conclusion to investigate this phenomena from untraditional point of view in order to obtain richer perspectives. Then, ethnography is selected as a robust approach to observe and understand the level of leanness in the organisation.

The application of ethnography in business is relatedly new. Brannan and Worthington (2002) creates the Journal of Organisational Ethnography as a compendium of the possibilities of this methodology in organisational science. This journal compasses examples of the application of ethnography. It provides evidence of the success of this approach.

Ethnography comes from the Greek “ethno” which means culture or folk and “grapho” meaning writing (Ladner, 2014). The polish anthropologist Branislaw Malinowski describes this method and inspires many other anthropologists to apply the same approach to understand

cultures. Furthermore, the implementation of ethnography in business brings new powerful unique perspectives for customers (Ladner, 2014). There are two major reasons that ethnography became popular in business. First, ethnography examines contents and it provides new insight into the product, people, consumers etc. Second, ethnographers occupied participant standpoint which allow them to see what would be otherwise invisible (Ladner, 2014).

2. Methodology

This research investigates the possibilities of ethnography in the understanding of Lean management. The aim is to provide a model that allow researchers to determine the level of leanness of an organisation. Since the application of Lean management has its roots and major followers in the automotive industry, the assumption of this research is that a firm in the automotive sector has higher level of leanness than a firm from other sector. Therefore, the key words for the research are Ethnography, Leanness, Lean Management and their combination including specifics automotive and non-automotive.

There are two main sources to develop this research. The first one is Web of Science (WoS) and the second ones are books found in the Czech National Library. The WoS offers many options to find relevant papers for this research. The words and combination of words in the search are: “Leanness”, “Measurement”, “Lean Measurement”, “Ethnography in automotive”, “Ethnography in Business”, “Six Sigma” with combination of “Leanness” or “Ethnography in non-automotive”.

The features of the search engine at WoS data base help to determine the number of relevant papers. These papers constitute the basis of the research. The analysis of the content at the abstracts of these papers in relation with this investigation determine the relevance of it use to develop the desired approach. A detailed reading of the selected papers constitutes the data to determine the findings for this research.

The exploration of the relevant literature at the Czech National Library has similar procedure. Key words define the books to explore. The keywords for this search are “ethnography”, “measure leanness” and combination of “lean” and “ethnography”. The search only includes the title of the document and the type of document: Books. Following this selection, the research focuses on available books with relevant content. The books significant for this research have relation with business research methods and ethnographic research methodology. A study of the selected books complements the data of this research.

The analysis of the findings from both sources allow the authors to determine the research model. This include the procedure for the research and its main characteristics.

3. Findings

The research of the WoS database determine 960 records for “Leanness” and 14729 records for “Ethnography”. The combination of this two results derives into only 17 papers. The abstracts review explores the keywords: “Lean”, “Leanness”, “Ethnography” or “Six Sigma” within the abstracts to determine its relevance for this research. This exploration determine just 5 papers related with this investigation. The rest of the paper uses the word lean in meaning to be fit within health issues. The relevant papers from these research are:

1. Lean Manufacturing Improvements (Giessler, Fagan, & Jagers, 2013)
2. It was the night of the long knives (Ratner, 2012)
3. Casting the lean spell: The promotion, dilution and erosion of lean management in the NHS (McCann, S Hassard, Granter, & J Hyde, 2015)
4. Learning to evolve, A review of contemporary lean thinking (Hines, Holwe, & Rich, 2004)
5. Qualitative Content Analysis (Mayring, 2000)

Geissler et al. (2013) in the paper *Lean Manufacturing Improvements* outlines observation methods used in lean as ethnographic methods. Helene Ratner (2012) applies an ethnography methodology in the paper *It was the night of the long knives* willing to understand how lean implementation influences employee well-being. The paper *Casting the lean spell: The promotion, dilution and erosion of lean management in the NHS* comprises detailed information about the integration of ethnography approach and leanness (McCann, S Hassard, Granter, & J Hyde, 2015). Hines, Holwe and Rich (2004) write in *Learning to evolve* about evolution of application lean thinking into organisation. The fifth paper *Qualitative Content Analysis* written by Philipp Mayring (2000) describes the process of text analysis, how to use computer programs for support of qualitative content analysis and also contains some examples of projects working with qualitative content analysis.

The research at the Czech National Library provides a list of 231 books with the word ethnography in their title. The review of the list determines the following books as relevant for this research:

1. Ladner, S., Practical Ethnography: A Guide to Doing Ethnography in the Private Sector, 2014

2. Silverman, D., *Qualitative research*, London, 2011
3. Fetterman, D., *Ethnography: Step-by-Step (Applied Social Research Methods)*, 2010
4. Emerson, R., Fretz, R. and Shaw, L., *Writing ethnographic fieldnotes*, 2011
5. Brymann, A., Bell, E., *Business Research Methods*, 2007

Sam Ladner (2014) in his book *Practical Ethnography* shows ethnographic research process on examples of ethnographic research in the Private Sector. This book contains an ethnographic tools and a guide to conduct research in corporate sphere. The book *Qualitative Research* offers a deeply overview of parts of ethnographic research. David Silverman (2011) specifies the sources for ethnographic research. These are texts, interviews, focus groups and visual data. The author also writes about qualitative data analysis.

David Fetterman (2010) in *Ethnography step by step* gives an anthropological insight into ethnographic methodology. This book contains the basic description of the ethnographer characteristics. It also includes the ethnographer's work for research design, data collection and data analysis.

The book *Writing ethnographic fieldnotes* compiles a comprehensive insight into ethnographer's fieldwork (Emerson, Fretz & Shaw, 2011). This book provides various methods for the fieldwork. The authors determine which questions should be answered at the beginning of the research. They also show an effective procedure for data collection.

The last relevant book found for this research is *Business Research Methods* written by Bryman and Bell (2007). Although this book is dedicated to several research approaches, it has a clear and specific section about qualitative research with ethnography. The book presents the classification of the roles for ethnographers based on Gold's approach (1958). This classification varies depends of the level of involvement of the observer. These are: Complete participant, Participant as observer, Observer as participant and Complete observer.

4 Results

The findings provide enough information distributed throughout the body of knowledge. The analysis of these findings consolidate the research model. This model has two main characteristics and one procedure.

4.1 Ethnographer's roles

The proposed methodology in this paper applies the roles: Complete participant and Participant-as-observer (Bryman & Bell, 2007). The complete participant researches the organisation from non-automotive industry. The management of this organisation does not literally include lean and its practices. Their approach for management might be lean, but it is not announced in the organisation as such. Therefore, the role of complete participant is needed to avoid interference in the dialogues and communications. The researcher must evade teaching or mentioning any lean management concepts or tools.

The role participant as observer is ideal for the automotive company. This organisation implements lean tools daily. It presents their results under these techniques. It promotes the philosophy through different channels. Therefore, the researcher of this organisation has the opportunity to actively participate in the development of process improvement projects using lean techniques. This closer participation allows the researcher to directly ask for lean concepts in order to observe the people's reactions and listening dialogues.

The main source of information is observation. Data sourced this way should show a gap between attitudes and actions of observed. What people say and what they do. Notes of both researchers are recorded in longitudinal ethnographic research to obtain relevant data. Regardless of who the observed is, the data is collected with time-distance information for qualitative data analysis.

4.2 Ethnography fieldnotes

The most important part of ethnographic research is built over the field work. The observation of people in their natural environment. The participant and observer are directly involved in the social context of the research. They must get to know the members of the teams and groups. They take over the social settings of the group's behaviour. Moreover, all that information must be captured. The ethnographers are responsible for data collection from observation. It must be a system on a regular basis to write down the observations and experiences.

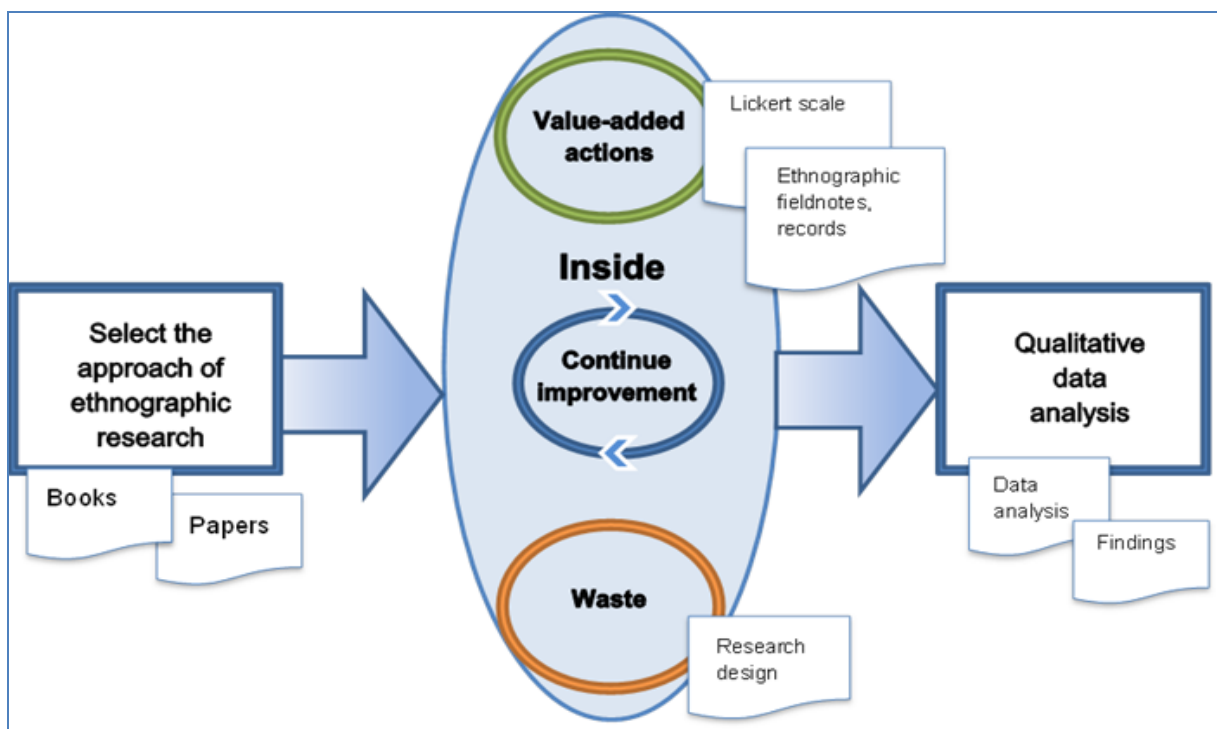
An ethnographic research has long-term character. Therefore, the research model and system to capture the information must be set at the beginning of the research. This should be used during the entire observation. However, it is well-known that the evolution of the observations might redesign the structure of the notes and the research itself. This circumstance is common and obvious in an ethnographic research (Robert M. Emerson, 2011).

The fieldnotes describe the real situations as well as people's reactions. This should be enhanced with documents, visual data and interviews with members of the group.

4.3 Procedure for ethnographic research of leanness

This paper explores the current body of knowledge to determine the possibilities of ethnography research approach in the measurement of leanness. The authors use this procedure to collect notes from both companies. The specifics of the research on leanness determine three main parameters to be observed during the ethnography research. These are Value, Waste and Continuous Improvement. The authors focus on the activities in relation to this aspects. After each observation notes must be taken in one file. The model also uses jottings as head notes to fast the collection of data from the observed situation. This allows the researchers to write down immediately the situation and come back later for more specific description.

Fig. 1: Procedure for ethnographic research of leanness



Source: Authors

Ladner (2014) recommends the use of questionnaires to capture and evaluate the research. The proposed model compiles a questionnaire with ninety-six issues within the three main parameters. Each of them contains the following sub parameters:

- Value - Customer's requirements, Increase features, Customer's satisfaction
- Waste - Muda, Mura, Muri
- Continuous Improvement - Improvement

The questionnaires guide the observations of the researchers. It also allows the future comparison of data since the research is performed for two ethnographers each one at different organisations and different role. Ethnography researches are usually considered subjective (Hegelund, 2005). Moreover, this model uses Likert scale at each question to harmonize the findings between both companies. However, there are two researchers and their perception are different. Then the selected value on Likert scale facilitates the communication between authors for future conclusions.

4.4 Pilot application of the model

The application of any ethnographic research model has the long-term characteristic (Robert M. Emerson, 2011). So far the authors have the opportunity to initiate the structured collection of data using the proposed ethnographic research model.

The first part of the research needs the involvement of the researchers in the groups. This phase has been successfully achieved. The researcher at the automotive industry obtain a specific task within a process improvement project. This allow his to meet the key persons of the organisations as well as the workers for the process in mention and other processes.

The second researcher has the opportunity to get employed in the organisation. For legal reasons, the HR department knows about his research activities. The rest of the organisation unknown his researcher role.

The questionnaire helps to collect the desired data. However, the perception of the corporate culture became an essential point in the understanding of the observations. The researchers enhance the model by answering if the corporate culture follows lean ideas and the lean tools; if the employees truly know the lean tools and follow them because of lean culture or because of only financial incentives? These new perspectives are typical of an ethnography approach and complements the aim of the research.

However, there are some complications to get the overview of the whole organisation. First, there are almost five hundred employees on different levels of the corporate structure. Reach all of them with the same questions or comments to capture leanness is an endless work. The second aspect is the motivation towards Lean. There are employees with interest on the lean culture and tools. But also there are employees only driven by financial incentives. For this second group, the actions and discussions lack on content. The researcher needs to go beyond the financial aspect to understand if this is a truly position or just an escape out of the conversation. Thirdly, the downgrade of working conditions mitigate the perception of

leanness aspects. This is issue itself, reduces the leanness of an organisation, but unclear the possibilities to know more about the other aspects of leanness.

Conclusion

This paper aims to provide a qualitative research model to understand Lean management using ethnography. The literature review and the presented research illustrates that there is a lack of formal sources to reference in order to determine a research proposal in this field. The body of knowledge is short but embedded within large contents such a Lean, Business or Ethnography. It is necessary to create the model from the very basis and run the pilot to observe its possibilities before making an intensely research.

This research found few papers about lean management and ethnography. This evidences a poor development of the application of ethnography to understand lean management. Just five papers are relevant in this. This evidences the novelty of the approach in Lean or the lack of interest to use this approach in the field. This conclusion constitutes an opportunity for future researches.

The definition of the ethnographer's role the system to take fieldnotes and the procedure to obtain results are crucial to develop this type of researches. Moreover, the pilot application of the model evidences the usual evolution of ethnography researches. The observation itself creates the need to include new perspectives into the research. The organisational size, the corporate culture, the employee's motivation towards Lean and the employees' Lean knowledge are the framework of the research to understand the organisational leanness.

Although ethnography provides important insights on how the level of leanness is created, the quantitative methods are needed to complement a full research to determine the level of leanness of a specific organisation.

Acknowledgment

This paper is one of the research outputs of the project IGA VSE F3/65/2016 financially supported by University of Economics, Prague.

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