Journal of Business and Economics, ISSN 2155-7950, USA
November 2019, Volume 10, No. 11, pp. 1076-1088
DOI: 10.15341/jbe(2155-7950)/11.10.2019/005
© Academic Star Publishing Company, 2019
http://www.academicstar.us

Comparison: Group Model Building Workshops of Two SMEs from the Basque Industrial Sector

Maria Ruiz, Unai Elorza, Noemi Zabaleta
(Mechanical and Industrial Production Department, Mondragon University, Spain)

Abstract: Group Model Building (GMB) is a methodology which involves a target group in the business of model formulation and conceptualization. It is crucial to obtain extended formal models and accelerate group decision support for future model building. In this paper the development of two GMB workshops for two Small and Medium-sized Enterprises (SME) from the Basque Industrial Sector is presented. These workshops focused on one problem: the analysis of the commitment of workers to the organization. Each session in each company was of four-hour duration and involved eight workers and two facilitators. This article highlights the importance of involving decision-making agents from each company in the reflection and process of finding solutions for their problem. The results suggest that in spite of the inherent differences and distinct features of each company, both have important similarities when tackling the same problem. These similarities could be translated to a general pattern conceptual model, which could be simulated as a generic model in the future.

Key words: group model building; collaborative modeling; industry
JEL code: L

1. Introduction

The increasingly competitive nature of the global economy has left many organizations searching for new strategies to build capacity and sustainable competitive advantage. Key to achieving this result is an effective decision making process. Competitive organizations require effective decision making. In this context characterized by dynamic complexity, simulations of social phenomena have become a scientific paradigm. This corresponds to a framework that creates events which cannot be observed and understood without this science (Sartori et al., 2015). Decision-makers, such as policy makers, regulators, infrastructure managers, investors, designers, planners, contractors, service providers and operators should take advantage of opportunities provided by simulation in order to build effective decision making models (van Dam, 2009).

Decision making processes are fundamental for organizations as they have direct influence on competitiveness and sustainability. Therefore, decisions should be made based on evidence, as they are part of

Ruiz Maria, Ph.D. in Engineering, Mechanical and Industrial Production Department, Mondragon University; research areas/interests: system dynamics, group model building, innovation management. E-mail: mruiz@mondragon.edu.
Elorza Unai, Ph.D. in Engineering, Mechanical and Industrial Production Department, Mondragon University; research areas/interests: strategic human resource management. E-mail: uelorza@mondragon.edu.
Zabaleta Noemi, Ph.D. in Engineering, Mechanical and Industrial Production Department, Mondragon University; research area/interest: project management. E-mail: nzabaleta@mondragon.edu.

more complex systems which are understood to be a set of interconnected interactions. Such a context requires more effective empirical tools to evaluate and predict the consequences of possible decisions.

For the purpose of obtaining competitive advantage organisational commitment is a key variable. This hypothesis is supported by the Resource Based View (RBV) which posits people as a key factor for competitiveness (Barney et al., 2001; Wright et al., 1994).

It is necessary to understand how organisational commitment and key variables that influence it, behave over time so as to facilitate knowledge acquisition by management and obtain more competitive organisations.

The future of many companies in developed economies is under threat from the growing number of countries which produce low cost products in this global and competitive scenario. Traditional strategies are rapidly becoming dated. The effect of this is a greater necessity for strategic change oriented towards higher added value products and services. Successful companies in this context are characterised by a strategy of differentiated and personalised service parameters (Truong, 2010).

This differentiating strategy enhances the necessity of more flexible, creative and resilient workers (with capacity to face changes in the organisation). It is important that employees who have historically worked in a traditional way based on passive behaviours understand the necessity of proactivity and initiative. They must embrace continuous learning to obtain success resulting from such differentiating strategies. As a consequence, the success of a company will be dependant on the skills of the workers, their capacity for learning and adapting to evolving client necessities. In general terms, the changing role of workers is the key to achieve a higher level of commitment to organisational objectives (Abdul et al., 2003; Kohtamäki, 2012).

Historically most companies have been working following a Tayloristic philosophy with the principal aim of increasing productivity. This implies unenriched workplace design performed by low qualified workers. In the current socio-economic context, the strategic reflexion of many companies has highlighted the necessity of organisational transformation to obtain more committed and more proactive workers. Such workers take an active role in achieving the strategic goals of their organisations. This transformation implies continuous dynamic learning, especially at a management level. Management has the power to implement changes and make them effective for the achievement of new value added strategies. What is still unknown however, is how proactive workers can be encouraged and motivated to obtain a more competitive organisation (Abdul et al., 2003; Kohtamäki, 2012).

The direct consequence is that organisational interventions in the field of people management are strongly motivated by intuitions (or inaccurate data), and management fashions which result in isolated and short-term initiatives with no coherence and no consistency. As a result, in the majority, these approaches are not successful or show very limited outcomes, generating frustration on people and lowering commitment. This does not help achieving a sustainable competitiveness. So, necessity of understanding organisational commitment exists (Smith, 2009).

Therefore, the key to successful changes resulting in improved competitiveness is based on the development of knowledge, skills, and abilities (KSA) rather than on the technical domain (Gowen et al., 2006). After this analysis, organisational commitment could be considered one of the central variables of KSA.

1.1 Organisational Commitment

Organisations which defend a “commitment” approach feature multiple practices that mean a high commitment strategy including collections of organisation-wide human resource policies and procedures that alter employee commitment level and motivation.

When employees perceive an investment in practices that maximise "commitment approach", they respond with higher commitment to the organisational aims. Employee affective commitment, characterised as the relative strength of individual identification with and involvement in organisation, has been demonstrated to be a direct influencer of job performance (Jaros, 1997; Meyer, Allen & Smith, 1993; Whitener, 1997). The literature shows that individuals affectively committed to the organisation are represented by high-level involvement and devotion to the organisation, and that attitudes and behaviours are likely to result in better organisational performance (Meyer, Paunonen, Gellatly, Goffin & Jackson, 1989). It is also argued that employees committed to organisational aims have the propensity to work harder and more in line with organisational expectations than the rest.

Mathieu et al. (1990) also identified job performance as a direct consequence of organisational commitment. He identified which the variables belonging to job performance are: ratings, measures, perceived job alternatives, intention to search, intention to leave, attendance, lateness and turnover. Aggregated job performance in organisational level must result in organisational commitment (D'Innocenzo, Mathieu & Kukenberger, 2016; Mathieu & Taylor, 2007; Mathieu & Chen, 2011).

Human Resource (HR) management systems which work a commitment strategy instead of a control strategy are called in different ways (Wood & Wall, 2007), i.e., "High Performance Work Systems" (HPWS), "High Commitment", "High Involvement" etc. All of them look for an improvement in the collective organisational commitment due to its effect on organisational performance. The majority of the studies in SHRM analyse to what extend HPWS are related to organisational performance. This relationship defended that an internal coherent human practices system (horizontal adjustment) and aligned with business strategy is the foundation to develop capacities and encourage attitudes and behaviours which enhance a organisational performance (Becker & Huselid, 1998; Delaney & Huselid, 1996; Delery & Shaw, 2001; Dyer & Reeves, 1995; Huselid, 1995; Ichniowski, Shaw & Prennushi, 1997).

There are multiple studies in different sectors which demonstrated empirically the positive relationship between HPWS and organisational performance (Arthur, 1994; Becker, Huselid, Becker & Huselid, 1998; Spratt, 1997; Delery, 1998; Huselid, 1995; MacDuffie, 1995; Ostroff, 2000; Youndt, Snell, Dean & Lepak, 1996). However, due to the different characteristics of each research, results of different studies can not be compared between them (Delaney & Huselid, 1996). Combs et al. (2006) developed a meta-analysis with 92 research to analyse the relationship between HR practices system and organisational performance. As a result, it was demonstrated that exists a positive relationships between HR practices and organisational performance (Guest, Michie, Sheehan & Conway, 2000).

1.2 Group Model Building (GMB)

Group Model Building is the technique used in this research for the comparison of the analysis done in two different companies of the Basque Country about the behavior of organizational commitment over time. GMB is a form of causal modelling based on system dynamics. Its main strength is its insistence on feedback loops. The different structures within an organization are defined through variables and causal relationships (Hoppenbrouwers, & Rouwette, 2013). Luna-Reyes et al. (2013) defined system dynamics Group Model Building as a tool to underpin interdisciplinary theory-building attempts (Luna-Reyes, 2000; Rouwette et al., 2002).

GMB is one approach used for developing and simulating formal models of complex systems. The development of such models is characterized by the challenge of achieving effective collaborations whilst dealing with variables such as lack of transparency and inability to assess the hidden assumptions behind a model. In this

context GMB is understood as a form of group decision support that involves stakeholders working with a team to solve a focused problem in a complex system (Rouwette et al., 2002).

Researchers stated that dynamic simulation is useful to obtain a better understanding of theories and any unexpected outcome obtained from them. In addition, it contributes to the creation of a synthetic environment, which adds to our knowledge about a particular phenomenon.

One of the most important benefits of GMB is the issue of stakeholder involvement. When stakeholders are included in the process, the quality of the outcomes is improved, they feel and understand the necessity of solving the problem and they reach a solution more easily, taking part in the whole reflection process. Moreover, GMB has also been introduced as a concept of "modelling as learning", a different consultancy methodology for system dynamists (Rouwette et al., 2002).

According to Andersen et al. (2000) the main value of GMB is its emphasis on face-to-face meetings to define model structure and to engage client teams in the whole process of modelling from conceptualization to decision making. One more strength is its reliance on feedback loops. The different feedback loop structures are defined through variables and causal relations (Hoppenbrouwers & Rouwette, 2013).

1.2.1 Group Model Building Followed in This Research

Regarding the steps to be followed in these sessions, Andersen et al. (1997) highlighted the importance of writing small group scripts to develop an effective GMB. According to them such sessions should be divided into three steps:

- **Planning for GMB meetings**. Is based on six different tasks: (i) objective setting, focused on interviews with key managers, (ii) audience selection, (iii) product definition, (iv) logistics, (v) types of group task structure, and (vi) presentations, based on one-to-many discussions with the stakeholder team.
- **Scheduling the day**. Consists of defining the public agenda for the day, which is composed of two topics: "stock and flow definition" and "feedback elicitation". Elements such as previously defined breaks, reflections after each phase and clarifying group products are considered key.
- **Development of GMB scripts**. Focused on defining the problem, model structure, feedback structure, equation writing and parametrisation, and policy development. The scripts are developed by Andersen et al. (1997).

The specific process followed in this research is presented in detail:

- **Problem definition**: this is the first stage where the challenge to be analysed in the session was presented to the participants with a clear and brief statement. An example of one of the companies that took part in this research is presented, facilitator presented the problem and together in consensus the challenge was stated as following:

Challenge/problem: in all the GMB sessions, the problem to be analysed was formulated in the same way. This formulation was: improvement of workers Commitment to achieve a win-win relationship between: (i) people, well-being and feeling as a part of the organisation, (ii) organisation sustainability or competitiveness.

- **Time horizon definition**: The period of time to be analysed was defined. It should start as far back in history as necessary to show how the problem emerged and describe its symptoms. In this research 100 months was selected as time framework for both the sessions and the simulation.
- **Individual variable definition**: Each participant listed the factors positively or negatively affect the challenge of analysis. Post-its were given to each participant, and they defined one variable on each. This phase seems to be a Brainstorming where participants could write in the post-it whatever came to their mind.

- **Opinion exchange**: Lists of all variables were shared and explained in the group. Post-its were stack in the wall, the window or the whiteboard to show them to all participants.
- **Final conceptual model definition**: The facilitator of the session included the variables raised by the group in the final model, always in consensus. Polarities of each relationship between the variables, and connections using arrows are also defined. It must mentioned that the final diagrams were closed in the post-session phase, that is, the models were refined and optimised in the office by the modelers (some feedbacks that were not closed in the sessions were reworked afterwards).
- **Validation round:** The final diagrams were validated with the corresponding organisations. For this purpose, the facilitator met again participants of the session, and explained them each feedback loop initially and the whole in the end. Each relationship was commented and explained with them in order to validate or modify them.

2. Objectives

The GMB sessions described in this paper were initiated as a result of a project called Bateratzen. It began in 2010 with the principal goal of aligning people to the strategic needs of the organization, and thus facilitating the development of more competitive organizations. This initiative is supported by the Regional Government of Gipuzkoa (DFG).

The research aimed to assist two SMEs from the Basque industrial sector in order to make more effective decisions in Human Resource Management. Specifically, the objectives are as follows:

- Compare two GMB sessions with regard to results, effectiveness of the methodology and finding solutions.
- Clarify the differences in definition of outcomes, and provide guidelines for more standardized assessments and reports.
- Assist managers in making more effective decisions and thus retaining worker commitment to the organisation.
- Construct a System Dynamic model based on the two GMB sessions (oncoming task).

3. Methodology

Prior to the GMB sessions, two important steps were undertaken: (i) Planning for the construction conference. One of the facilitators interviewed a number of key people from each company. In these interviews the existence of the problem (commitment to the company) was confirmed, the goal of the GMB workshops was clarified and causal maps of system feedback were defined. In addition, audience and purpose were selected, diverse profiles that are crucial for the daily activity of the company. (ii) Schedule for the day. The public agenda for each GMB session was set to four hours (8.30-12.30). The sessions were developed in both Spanish and Basque.

3.1 Group Model Building Workshops

Two GMB sessions were arranged, one in each of the selected companies. The organisation of these sessions was as follows:

(i) Problem definition. The workshops addressed the same problem in each organisation, so as to facilitate comparison of results. It is important to note that these workshops were developed in “real” organizations with a “real” problem, worker commitment to their organisations. The selected companies are also cooperatives owned by the workers, a factor that may influence decision making and level of commitment. As system dynamics uses

modelling at a high level of abstraction, the workshops were limited to defining the causal loops diagrams. The simulation models will be developed as future work by Mondragon Unibertsitatea, in partnership with the companies. (ii) List of variables. Workshop participants were asked to list variables involved in and related to analysis. Variables could be causes or effects of the problem; the relevance lies in the existence of a relationship with the topic of analysis. Lists were drafted individually, and then compared in an opinion exchange. (iii) Identification of influencers. In this step participants chose the influencers that directly influenced the problem. (iv) Loop creation. Existing loops in the diagram were identified together with their polarities, and names were assigned.

All phases were developed considering the opinions of all participants, and always in consensus. Such agreement is necessary, before adding any concept to the diagrams or defining any loop.

3.1.2 Company A

The Problem definition phase was almost the same for both companies, and involved a brief reflection on the commitment of workers, development of the analysis and definition of time horizon.

Each participant then produced a list of variables related to commitment and then shared them in the opinion exchange.

The identification of influencers phase took 1 hour. Most of the influencers were causes (i.e., level or lack of commitment) rather than effects, which required some extra effort on the part of the facilitators to obtain the most accurate and appropriate general diagram.

The final phase proved the most difficult, due to the abundance of causes rather than effects. A second round review was necessary to obtain two principal loops defining the general structure, main origin of the problem, and its influences.

3.1.2 Company B

Defining the problem and making the individual lists of variables was almost the same for both companies. The most important differences appeared in the process of defining the influences. Company B had fewer variables and thus fewer influencers were identified. The defined variables where causes and also effects of the problem, this situation was really effective in closing the feedback loops, and also identifying the archetypes required for the future task of developing the simulation model, Figure 1.

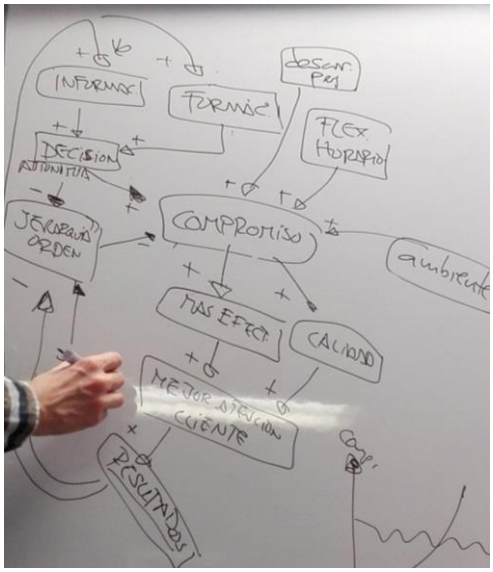

Figure 1 Initial Diagram (This Session Was Developed in Spanish)

In the final phase circular feedback loops were identified. All the variables stuck to the wall from the problem definition phase were included in the diagram, indicating that the session was effective enough to include the contributions from all participants.

4. Results

4.1 Company A

The GMB session in Company A was developed with ease due to the commitment to the process from the participants. All participants were volunteers from diverse decision-making roles within the company, but with a shared goal of increasing the competitiveness of their organisation in the context of the highly changeable Basque industrial sector.

Complete agreement is necessary before adding any variable to the general diagram displayed on the whiteboard. In Company A the concept of motivation was considered a key variable to obtain higher results. According to their session, motivated workers show responsible and favorable behaviours. These initiatives help for the obtaining of better results. The improvement of results drives motivation of workers. At the same time, the improved motivation contributes to increase favorable behaviours. Figure 2 shows the loop resulting from this analysis. Motivation is understood as the company's life-blood (Yahava et al., 2012). A well managed organisation can motivate and retain its employees and hence has the following competitive advantages: reduced turnover, an increase in productivity, reduced abseneeism, increased revenur, and improved performance. Performance is understood as the affect or cognition or the motives for physical persistence in tasks (Rich et al., 2010). Favourable behaviours refer to the behaviours of workers perceived as positive, and consequently understood as drivers of performance and motivation.

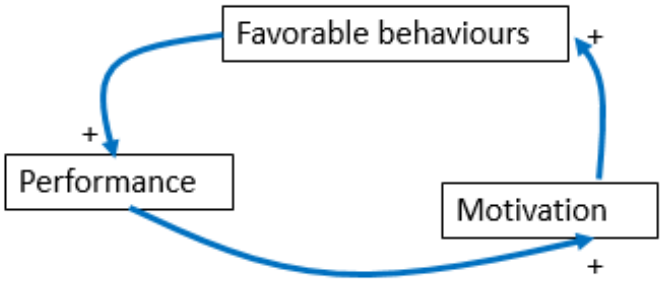

Figure 2 Motivation as a Principal Lever

The second loop successor to the first one adds information about the influence of the size of the organisation on motivation level. When performance is increased, organisations tend to be expanded. A bigger size frequently ends into a more hierarchical organisation. When size and hierarchies are increased, motivation will be decreased, and the general perspective is lost, effective practices, such as communication are lost. Thus, it could stated that a bigger size of the company results in problems to increase motivation (Figure 3).

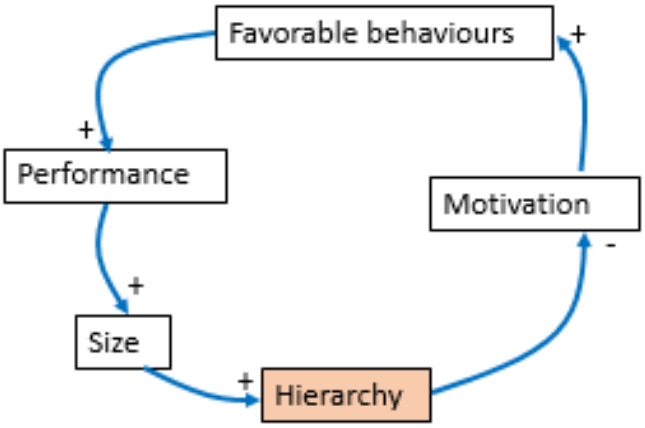

Figure 3 The Influence of Size on Motivation

The third loop is focused on automation (Figure 4), as the inititive that this company set in crisis situation. The direct consequence of the implamentation of automation to improve performance lead to the need for training of the workers. This training helps to the increase of motivation level of workers, and this motivation contributes to a higher performance. The participants in this session explained that performance was increased due to both automation and increase of motivation. Training is represented in another colour due to its lever nature, that is, this variable is a factor that could be manipulated by management depending on their objective.

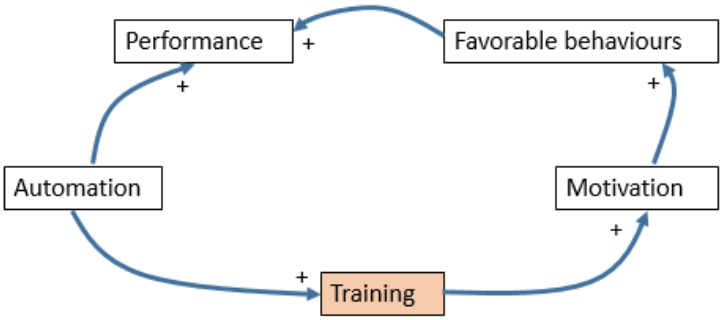

Figure 4 Automation as an Alternative for Crisis Situation (Company A)

4.2 Company B

The outstanding feature of the GMB session in Company B was the speed with which the feedback loops were closed. The first part, which focused on finding the causes and effects of the problem, was highly effective as both sides (origin and effects) of all the paths were identified. The key to understanding how commitment could be improved is based on this principal loop in Figure 5.

This feedback loop is focused on the influence of trust on commitment. When trust of management on workers is high, they tend to: i) implement of policies that involve workers in the company project, ii) share of the project, iii) engage a leadership based on listening and integrity, and iv) design of participative platforms and give decision making autonomy to the workers. This set of practices will contribute to the trust engagement of workers, and at the same time they will also show higher trust in management. This trust will turn into a higher commitment level of workers. This commitment results in favourable behaviours for the organisation. Finally,

these behaviours will contribute to strengthen management trust in workers, which activates the whole system.

This circle could also be interpreted in the opposite way. When the trust level of management in workers is lower, lower development of levers will exist, at the same time lower level of trust of workers in management will exist, and less favourable behaviours to reinforce trust level of management. HRM policies refer to the practices that tackle the necessity of implementing people management practies as an interconnected set of practices. Practices that are helpful to align people's KSA and behaviour with organisational strategic challenges. The leadership to which participants refer in this session represents the leader as the person who influences the rest. Leaders manage and facilitate relationships between a group or an organisation. Shared project refers to feeling and understanding of working as an aligned team for the obtaining of the same objective (the mission of our organisation). Autonomy is used to explain the power for decision making of workers, autonomy in the sense of being in the position of making decisions. Boxes in orange represent the levers, factors that could be changed by management.

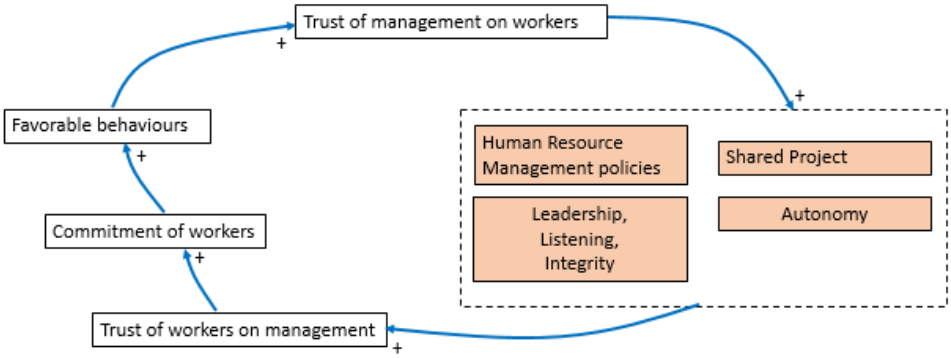

Figure 5 Trust as a Principal Lever

The previous circle based on trust cycle results in the analysis of the impact of organisational climate on the commitment level of workers. A higher level of commitment in the organisation will result in favorable behaviours (i.e. cooperation, participation…). These behaviours will positively contribute to a trust based climate. At the same time, this climate will contribute to the increase of workers commitment to the organisation.

This circle could also be understood in a negative way: when commitment is decreased, favorable behaviours are decreased, organisational climate is damaged, and commitment will be damaged (Figure 6).

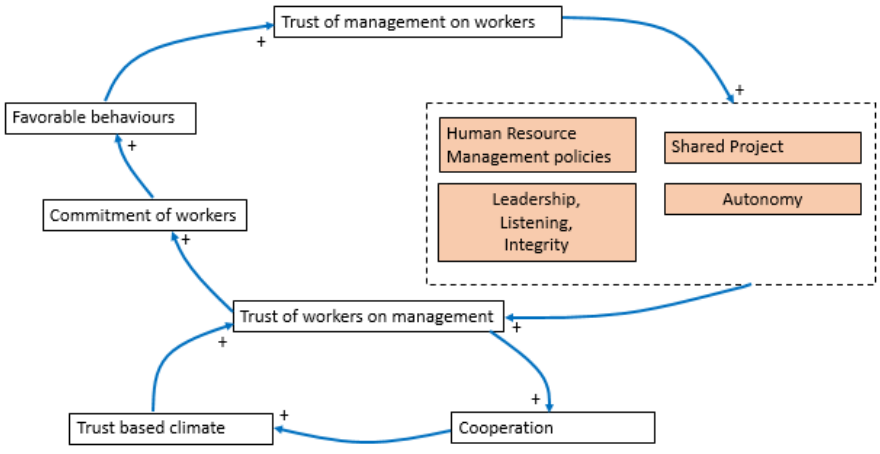

Figure 6 Worker Commitment and Organisational Climate

The third loop to be analysed in this research is focused on automation as happened in Company A (Figure 7). It is considered interesting to compare the understanding of different companies of the same problem and same alternatives. The participants of this session undertsood that low levels of performance leads to a higher necessity to implement a solution (to improve sustainability of the organisation). A higher necessity to improve will end in decisions such as: i) automation, ii) relocation, iii) increase of productivity through changes in the way of working. These three actions (independently or together) help to improve the performance level of the workers, and consequently the economic results of the organisation. Relocation happens when an organisation decides to spread and open a subsidiary in another country. Wished situation represents the ideal situation defined in the startegic challenges of the organisation. However, necessity to improve refers to the situation in which the organsiation needs to implement levers to improve their situation and be closer to those strategic challenges.

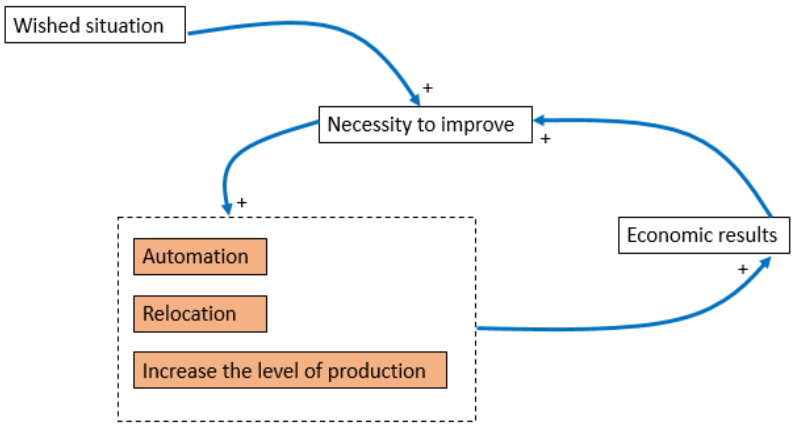

Figure 7 Automation as an Alternative for Crisis Situation (Company B)

5. Conclusions

Company A was characterized by the commitment and enthusiasm of the participants, which resulted in the identification of a high volume of "cause" variables for the problem (commitment to the company). This focus on "cause" variables however, resulted in difficulties in defining final closed loops, as the participants did not pay sufficient attention to "consequences".

In contrast, Company B participants although enthusiastic were more balanced in their approach, and achieved both balancing and reinforcing loops, which will facilitate future work in the construction of a simulation model.

Both sessions analysed in this work have demonstrated the effectiveness of GMB workshops in involving stakeholders in the process of modelling, reflection and seeking solutions. The methodology of this approach implicates the participant in the problem, which effectively captures their attention and increases motivation. In addition, both workshops have proved robust enough to obtain the necessary information to build a reliable simulation model, which is the objective of future work in this project.

In both cases automation has been defined as a usual alternative for crisis situations, according to the participants it has a direct and positive effect on performance, and this result affects positively commitment of workers. On the other hand, in both sessions they have identified the drivers of commitment, in the case of Company A motivation of workers was considered the key variable to enhance favorable behaviours of workers.

These behaviours end into a higher performance. In addition, the analysis of motivation end into a connection with the size of the company, according to the participants a negative correlation exists between size and motivation level. Company B, however, identified trust as the key variable to increase commitment level. This commitment drives a higher level of favorable behaviours which results in higher performance and a correlation was found between organizational climate and trust cycle. Thus, both sessions assumed that skills, abilities and behaviours facilitated the obtaining of a higher performance, rather than technical domain. Moreover, this approach has been extremely useful in identifying similarities between companies from the same sector. This identification is also the key to creating a standard and transferable template, which will form the basis of the final simulation model, to find solutions for industrial sector companies with the same problem. It could be stated that the benefits of GMB are several: i) as a validation tool, the fact of developing more than one GMB session is helpful for the obtaining of middle range theories, and consequently, GMB could enable the validation of previously defined statements, ii) the future definition of a conceptual model based on these GMB sessions could be considered a powerful tool for explanation and communication of HRM statements for management, and iii) the resulting models of these sessions could be used as learning tools for decision making improvement of management.

Acknowledgements

We would like to thank the Regional Government of Gipuzkoa (GFA) for their support in the development of this project. Special thanks to the Department of Economic, Rural and Territorial Development of GFA in the context of BATERATZEN (OF-267/ 2015).

References

Abdul Rashid Z., Sambasivan M. and Johari J. (2003). "The influence of corporate culture and organisational commitment on performance", *Journal of Management Development*, Vol. 22, No. 8, pp. 708-728.

Andersen D. F., Richardson G. P. and Vennix J. A. (1997). "Group model building : Adding more science to the craft", *System Dynamics Review*, Vol. 13, No. 2, pp. 187-201, available online at: https://doi.org/10.1002/(SICI)1099-1727(199722)13:2<187::AID-SDR124>3.0.CO;2-O.

Andersen D. F., Vennix J. A., Richardson G. P. and Rouwette E. A. (2000). "Group model building: Problem structuring, policy simulation and decision support", *Journal of the Operational Research Society*, Vol. 58, No. 5, pp. 691-694.

Arthur J. B. (1994). "Effects of human resource systems on manufacturing performance and turnover", *Academy of Management Journal*, Vol. 37, No. 3, pp. 670-687.

Barney J., Wright M. and Ketchen D. J. (2001). "The resource-based view of the firm: Ten years after 1991", *Journal of Management*, Vol. 27, No. 6, pp. 625-641, available online at: https://doi.org/10.1016/S0149-2063(01)00114-3.

Batt R. (2002). "Managing customer services: Human resource practices, quit rates, and sales growth", *Academy of Management Journal*, Vol. 45, No. 3, pp. 587-597.

Becker B. E., Huselid M. A., Becker B. E. and Huselid M. A. (1998). "High performance work systems and firm performance: A synthesis of research and managerial implications", *Research in Personnel and Human Resource Management.*

Becker B. E., Huselid M. A., Pickus P. S. and Spratt M. F. (1997). "HR as a source of shareholder value: Research and recommendations", *Human Resource Management*, Vol. 36, No. 1, pp. 39-47.

Becker T. E. (1992). "Foci and bases of commitment: Are they distinctions worth making?", *Academy of Management Journal*, Vol. 35, pp. 232-244.

Becker B. E. and Huselid M. A. (2006). "Strategic human resources management: Where do we go from here?", *Journal of Management*, Vol. 32, No. 6, pp. 898-925, available online at: https://doi.org/10.1177/0149206306293668.

Boxall P. and Macky K. (2009). "Research and theory on high-performance work systems: Progressing the high-involvement stream", *Human Resource Management Journal*, Vol. 19, No. 1, pp. 3-23, available online at:

https://doi.org/10.1111/j.1748-8583.2008.00082.

Combs J., Liu,Y., Hall A. and Ketchen D. (2006). "How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance", *Personnel Psychology*, Vol. 59, No. 3, pp. 501-528.

Delaney J. T. and Huselid M. A. (1996). "The impact of human resource management practices on perceptions of organizational performance", *Academy of Management Journal*, Vol. 39, pp. 949-969.

Delery J. E. and Shaw J. D. (2001). "The strategic management of people in work organizations: Review, synthesis, and extension", *Research in Personnel and Human Resource Management*, Vol. 20, pp. 165-197.

Delery J. E. (1998). "Issues of fit in strategic human resource management: Implications for research", *Human Resource Management Review*, Vol. 8, No. 3, pp. 289-309.

D'Innocenzo L., Mathieu J. E. and Kukenberger M. R. (2016). "A meta-analysis of different forms of shared leadership — Team performance relations", *Journal of Management*, Vol. 42, No. 7, pp. 1964-1991.

Dyer L. and Reeves T. (1995). "Human resource strategies and firm performance: what do we know and where do we need to go?", *International Journal of Human Resource Management*, Vol. 6, No. 3, pp. 656-670.

Gowen C. R., Mcfadden K. L., Hoobler J. M. and Tallon W. J. (2006). "Exploring the efficacy of healthcare quality practices, employee commitment, and employee control", *Journal of Operations Management*, Vol. 24, No. 6, pp. 765-778, available online at: https://doi.org/10.1016/j.jom.2005.09.005.

Guest D., Michie J., Sheehan M. and Conway N. (2000). *Employment Relations, HRM and Business Performance: An Analysis of The 1998 Workplace Employee Relations Survey*, London: Institute of Personnel and Development.

Hoppenbrouwers S. and Rouwette E. (2013). "A dialogue game for anlysing group model building: Framing collaborative modelling and its facilitation", *Radboud Repository*, p. 144, available online at: https://doi.org/10.1063/1.3033202.

Huselid M. A. (1995). "The impact of Human Resource Management practices on turnover, productivity and corporate financial performance", *Academy of Management Journal*, Vol. 38, No. 3, pp. 635-672.

Ichniowski C., Shaw K. and Prennushi G. (1997). "The effects of human resource management practices on productivity: A study of steel finishing lines", *The American Economic Review*, pp. 291-313.

Jaros S. J. (1997). "An assessment of Meyer and Allen's (1991) 'Three-Component Model of Organizational Commitment and Turnover Intentions'", *Journal of Vocational Behavior*, Vol. 51, No. 51, pp. 319-337, available online at: https://doi.org/10.5465/AMBPP.1995.17536599.

Kohtamäki M., Kraus S., Mäkelä M. and Rönkkö M. (2012). "The role of personnel commitment to strategy implementation and organisational learning within the relationship between strategic planning and company performance", *International Journal of Entrepreneurial Behavior & Research*, Vol. 18, No. 2, pp. 159-178.

Lawler E. (1986). *High-Involvement Management*, San Franci.

Luna-reyes L. F., Ran W., Jarman H., Zhang J. and Andersen D. (2013). "Group model building to support interdisciplinary theory building", *International Conference of the System Dynamics Society*, pp. 1-17.

MacDuffie J. P. (1995). "Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry", *Industrial and Labor Relations Review*, Vol. 48, pp. 197-221.

Mathieu J. E. and Chen G. (2011). "The etiology of the multilevel paradigm in management research", *Journal of Management*, Vol. 37, No. 2, pp. 610-641.

Mathieu J. E. and Taylor S. R. (2007). "A framework for testing meso-mediational relationships in organizational behavior", *Journal of Organizational Behavior*, Vol. 28, No. 2, pp. 141-172.

Mathieu J. E. and Zajac D. M. (1990). "A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment", *Psychological Bulletin*, Vol. 108, No. 2, p. 171.

Meyer J. P., Paunonen S. V., Gellatly I. R., Goffin R. D. and Jackson D. N. (1989). "Organizational commitment and job performance: It's the nature of the commitment that counts", *Journal of Applied Psychology*, Vol. 74, No. 1, p. 152.

Meyer J. P., Allen N. J. and Smith C. A. (1993). "Commitment to organizations and occupations: Extension and test of a three-component conceptualization", *Journal of Applied Psychology*, Vol. 78, No. 4, p. 538.

Ostroff C. and Bowen D. E. (2000). "Moving HR to a higher level: HR practices and organizational effectiveness", in: K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel Theory, Research, and Methods in Organizations: Foundations, Extensions, and New Directions*, Jossey-Bass, pp. 211-266.

Rich B. L., Lepine J. A. and Crawford E. R. (2010). "Job engagement: Antecedents and effects on job performance", *Academy of Management Journal*, Vol. 53, No. 3, pp. 617-635.

Rouwette E. A., Vennix J. A. and Mullekom T. V. (2002). "Group model building effectiveness: A review of assessment studies", *System Dynamics Review*, Vol. 18, No. 1, pp. 5-45, available online at: https://doi.org/10.1007/978-0-387-30440-3_264.

Sartori R., Ceschi A. and Costantini A. (2015). "On decision processes in businesses, companies and organizations computed through a generative approach: The case of the agent-based modeling", *International Journal of Business Research*.

Smith B. D. (2009). "Maybe I will, maybe I won't: what the connected perspectives of motivation theory and organisational commitment may contribute to our understanding of strategy implementation", *Journal of Strategic Marketing*, Vol. 17, No. 6, pp. 473-485.

Truong Q., van der Heijden B. I. and Rowley C. (2010). "Globalisation, competitiveness and human resource management in a transitional economy: The case of Vietnam", *International Journal of Business Studies*: A Publication of the Faculty of Business Administration, Edith Cowan University, Vol. 18, No. 1, p. 75.

van Dam K. H. (2009). "Capturing socio-technical systems with agent-based modelling", available online at: http://resolver.tudelft.nl/uuid:1b36bc02-c7fe-4773-9ab2-3daa3b891754.

Vandenberg R. J., Richardson H. A. and Eastman L. J. (1999). "The impact of high involvement work processes on organizational effectiveness: A second-order latent variable approach",*Group & Organization Management*, Vol. 24, No. 3, pp. 300-339.

Whitener E. M. (1997). "The impact of human resource activities on employee trust", *Human Resource Management Review*, Vol. 7, No. 4, pp. 389-404, available online at: https://doi.org/10.1016/S1053-4822(97)90026-7.

Wood S. J. and Wall T. D. (2007). "Work enrichment and employee voice in human resource management-performance studies", *International Journal of Human Resource Management*, Vol. 18, pp. 1335-1372.

Wright P. M., McMahan G. C. and MacWilliams A. (1994). "Human resources and sustained competitive advantage: A resource-based perspective", *International Journal of Human Resource Management*, Vol. 5, pp. 301-326.

Yahaya A., Yahaya N., Bon A. T., Ismail S. and Noor N. M. (2012). "The relationship between big five personality with work motivation, competitiveness and job satisfaction", *Elixir Psychology*, Vol. 44, pp. 7454-7461.

Youndt M. A., Snell S. A., Dean J. W. and Lepak D. P. (1996). "Human resource management, manufacturing strategy, and firm performance", *Academy of Management Journal*, Vol. 39, No. 4, pp. 836-866.