

## Replication In Knowledge Transfer Within Mnc Subsidiary Episodes

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### Abstract

*With the rise in multinational corporations (MNCs), there is a greater need than ever to comprehend how parent businesses oversee their subsidiaries' activities and impart knowledge to them. Japanese businesses have led the way in this area, implementing techniques like the Toyota Production System (TPS) to transfer the Japanese manufacturing ethos and uphold quality and control in their foreign operations. While there has been much discussion about the process of transferring Japanese manufacturing capabilities, little is known about how these methods are really acquired and integrated into the operations of the subsidiaries that are expected to employ them. This article looks at the parent company's perspective on the transfer of manufacturing knowledge to the subsidiary. Thus, a comprehensive qualitative study was conducted in the Japanese multinational's subsidiary, encompassing three major manufacturing initiatives (or philosophies): "TPS," "TPM," and "TS." Case data was gathered through 52 in-depth interviews with project participants, documentation, and moderate-participant observations. By using the subsidiary's procedures, the formation of the entire process, and most importantly the utilization and development of episodes in snapshots to understand the process adds to our understanding of knowledge transfer. This article further elaborates how replication is a major element in episodic knowledge transfer.*

**Keywords:** *knowledge transfer, MNC subsidiary, episodes development, replication, Malaysia..*

### Introduction

Over the past 40 years, multinational corporations (MNCs) have grown significantly. Scholars have recently turned their attention to the subject of knowledge, more precisely to the way multinational corporations (MNCs) handle their knowledge. They have also been studying the existence and evolution of economic stimulation components (Gupta and Govindarajan, 2000).

Understanding how parent businesses oversee the activities of their subsidiaries and impart knowledge to them is crucial given the explosive rise of multinational corporations (MNCs) (Alias et al, 2008a). This is particularly crucial for industrial companies who are expanding internationally. Particularly, Japanese companies have been at the forefront of the development of techniques like Kaizen and TPS components like Kanban, which can be helpful tools for transferring Japanese manufacturing philosophy and upholding quality and control in foreign subsidiaries (Alias et al, 2008b).

"The process through which one unit (e.g., group, department, or division) is affected by the experience of another" is how knowledge transfer is defined (Argote and Ingram, 2000: pg 151). Changes in the performance or knowledge of the receiving units are indicators of the transfer of organizational knowledge, such as standard operating procedures or best practices, according to Argote and Ingram (2000). Knowledge transfer is becoming more and more crucial, especially for multinational corporations (MNCs). Therefore, for effective management to take place in these scattered businesses, knowledge must be transferred from one person, group, department, or geographic division to another (Alias, 2013).

Multinational corporations often oversee operations across several nations from their headquarters. A home office corporation's (HOC) headquarters is generally referred to as the "parent," and businesses with locations abroad are referred to as "subsidiaries." In addition to making large direct investments overseas and actively managing and integrating operations in several other countries, the subsidiaries frequently contribute significantly financially to the multinational corporations (MNCs) (Birkinshaw, 1996).

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Understanding how parent companies transfer their expertise to and manage the operations of their subsidiaries is crucial given the rapid growth of multinational corporations (MNCs) (Alias et al, 2008b). Production businesses are especially interested in this, especially Japanese multinationals with several overseas industrial divisions. Particularly, Japanese companies have led the way in developing techniques like Kaizen and components of the Toyota Production System (TPS) like Kanban. These can be effective tools for imparting the Japanese manufacturing philosophy to overseas affiliates and ensuring quality and control (Alias et al, 2008b).

An excellent venue for researching knowledge transfer is provided by the Japanese MNC. Scholars have demonstrated a growing interest in the role that knowledge management plays in companies, especially multinational corporations (MNCs) (Ghoshal and Bartlett, 1988; Kogut and Zander, 1995; Szulanski, 1996; Gupta and Govindarajan, 2000; Eisenhardt and Santos, 2002), where a multitude of projects involving diverse kinds of knowledge are undertaken. This position offers the possibility of conducting more study on the topic, especially in relation to subsidiaries that have locations abroad, such Malaysia (Alias et al, 2008a).

Consequently, this research adopts the subsidiary's point of view to examine how knowledge of manufacturing processes is transferred from a parent company to its subsidiaries by concentrating on projects within the subsidiary. Projects often involve workers from many organizational levels and cross-sectional flows within the structure of a company and its subsidiaries, according to Blackler (1995) and Koskinen (2003). The majority of knowledge, according to Nonaka and Takeuchi (1995), Alavi and Leidner (2001), and Bender and Fish (2000), is created, communicated, and transferred across projects. As a result, information transfer becomes easier to see and comprehend, and the validity of the research is guaranteed (Alias et al, 2008b). Researching knowledge transfer in a micro environment is vital to have a better understanding of the procedures that take place within an MNC subsidiary, including the roles that individuals play in the process of information transfer (Alias, 2013).

Replication and adaptation are the two primary tactics that are commonly utilized to fit in with the local context when it comes to knowledge transfer between MNCs and their subsidiaries (Szulanski et al, 2002; Williams, 2002; Chini, 2005). When information is copied or duplicated from its original source, it is referred to as "replication". On the other hand, adaptation of knowledge happens when an individual (the recipient) changes the information.

According to the recommendations regarding the need to comprehend how local managers and operatives apply the information to their working practices from a practical standpoint, the microenvironment of an MNC subsidiary will offer the chance to obtain a deeper understanding in this regard (Alias et al, 2008a). Since researchers have recently become more interested in the role of knowledge management in organizations, particularly multinational corporations (e.g., Szulanski, 1996; Szulanski, 2000; Gupta and Govindarajan, 2000; Eisenhardt and Santos, 2002; Birkinshaw, 1996; Oliver et al, 1998; Minbaeva and Michailova, 2004), the Japanese MNC is a suitable context for a study of knowledge flow.

Effective top-down and bottom-up communication is necessary to make the organization's current information usable, according to Kostova (1999). Nonetheless, it can be challenging to effectively communicate across hierarchies, which makes knowledge transfer more challenging (Davenport and Prusak, 1998; Schlegelmilch and Chini, 2003; Edwards et al, 2005). If an organization permits open communication networks where information producers and information seekers can evaluate information and knowledge via quicker and more effective pathways, the amount of knowledge transmission within the organization will grow (Alias et al, 2008a; Alias, 2008c). Moreover, the utilization of several levels of hierarchy and the flow of order in an organization have been noted since the early days of MNC programs, such as quality circles and the zero-defect program (Bennett, 1986; Kenney and Florida, 1995).

If the organizational structure is designed to support efforts that demand information flow from multiple sources and are mandated by the projects themselves, then it becomes even more crucial (Khan et al., 2015; 2022). This pertains to the debate over the relative importance of in-person interactions and meetings between members of an organization versus knowledge found in manuals, databases, routines, and

procedures, and the ongoing investigation of any alternative forms of communication flows in related fields (Alias et al, 2008b; Alias et al, 2020).

These opinions, which have been presented in a number of studies, are shaping the course of this research and offering fresh insights into the functioning and variations of various information flow processes as well as their involvement and occurrence (Alias et al, 2008b; Alias et al, 2020; Alias and Mat, 2022). This study's justification or motivation stems from the fact that it advances our knowledge of knowledge transfer by the application of strategies employed in the subsidiary, the production of the complete process, and foremost, the utilization of episodes as snapshots to comprehend the associated process. Consequently, the following are this paper's primary goals:

- to understand the procedures by which multinational corporations (MNCs) impart manufacturing expertise to their subsidiaries.
- to investigate how the MNC subsidiaries replicate and adapt knowledge from parents' companies.
- to understand the process of replication in episodes development in knowledge transfer.

#### *Research Setting of an MNC Subsidiary*

One of the top providers of innovative automotive systems, parts, and technology to all major manufacturers worldwide is The Gambatte\* Corporation, which is anonymously referred to as Gambatte in this article (Alias et al, 2008b; Alias et al, 2020). With operations in 32 nations and territories, it employs more than 112,000 people in the automotive sector as a whole. For the fiscal year that concluded on March 31, 2007, the Corporation's global consolidated revenues reached US \$30.6 billion. This was made possible by efforts in sales, product development, design, and production, as well as cooperation with regional automakers and suppliers to offer the best solutions for regional needs (Alias, 2013).

Each Gambatte associate (employee) must embody the Gambatte spirit of creativity in thought and steady in action, cooperation and pioneering, as well as trustworthiness, in order to uphold the company's management principles, which are focused on customer satisfaction through the provision of quality products and services, global growth through anticipating changes, environmental preservation and harmony with society, corporate vitality, and respect for individuality (Alias, 2013; Alias et al, 2008b; Alias et al, 2020; Alias and Mat, 2022).

The research site for this paper, Gambatte (Malaysia), was established in 1980 and has grown to be the country's largest manufacturer of automotive components as well as a significant supplier of automotive components to both local car projects and Japanese cars made in Malaysia. It is Gambatte Corp.'s fully owned subsidiary (Alias et al, 2008b; Alias et al, 2020). Gambatte, a brand that is synonymous with quality, chooses and puts into action CTI projects that will most significantly affect the most important business strategies and objectives. This is achieved by focusing on efficiency and good quality while also improving product design, cutting waste, and changing up the way that manufacturing operations are carried out (Alias et al, 2008b; Alias et al, 2020).

Gambatte (M) has always acted with initiative and creativity. Being one of the first businesses in the Gambatte Group of Companies to receive the esteemed ISO/TS 16949 accreditation from SIRIM and the global automakers and suppliers' association, the "International Automotive Task Force (IATF)," Additionally, as evidence of the company's dedication to and efforts in environmental preservation, it has obtained ISO 14001 Environmental Management System accreditation (Alias et al, 2008; Alias et al, 2020).

While this factory is working on other projects, three major ones have been selected with care to align with the three main production aims (philosophies), offering a more thorough comprehension of their communication.

### *The First Case-Setting – Gambatte TPS (Toyota Production System)*

With its founding in 1973 at GJP (Gambatte Japan, the headquarters of the Gambatte Group), Gambatte TPS has a rich history. The Toyota Production System (TPS) was designed as a result of a Kaizen Activity led by Toyota Motor Corporation. It is a globally recognized manufacturing standard, especially in the automotive industry and in relation to lean production initiatives (Alias et al, 2008b; Alias et al, 2020). Individual line improvement projects, or kaizen projects, have been conducted since 1996. In this context, "individually" should not be understood to refer to a single person in and of themselves, but rather to the members' individual efforts in the numerous departments to which they were assigned, which had a minimal impact on the organization as a whole (Alias et al., 2008b).

A TPS team (formerly called the Kaizen Project Team) was established across the entire firm in 2002. It drew everyone together to begin the first upgrade in the Condenser Line of the Thermal System Plant. Strict transfer supervision was required by the Japanese HQ manager who visited GMY to present the first Kanban Simulation training.

In 2003, the Kaizen Project Team was renamed the TPS Project Team, under the direct supervision of the MD and consisting of eight members. The TPS Team was split into the Improvement Team and Small Fabrication sections in 2004. While the latter is more focused on machinery or equipment, the former is more focused on streamlining the process. Ultimately, the TPS project team was elevated to the department level in 2005, marking the establishment of the TPS Department as an enterprise-wide endeavor (Alias et al, 2008b; Alias et al, 2020).

The researcher's primary empirical site was this TPS Department Project, where an in-depth interviews were conducted with important individuals and observed their formal and informal connections at meetings.

### *The Second Case-Setting – Gambatte TPM (Total Productive Maintenance)*

Total Productive Maintenance is referred to as TPM. The Gambatte Group's headquarters, GJP (Gambatte Japan), is where the 40-year history of the Gambatte TPM Project began. Since TPM is seen as an international sort of activity, it differs differently from that stated in textbooks in Gambatte Malaysia (GMY). Instead, it is more geared toward a management type of work or activity, with an emphasis on how to coordinate it to benchmark against global activity. TPM is focused on improving machine maintenance overall, which includes examining who maintains the machines, what systems do so, and how to increase machine knowledge—which, of course, calls for education and training (Alias et al, 2008b; Alias et al 2020). TPM is concerned with machines and how they are kept or maintained generally.

The TPM that was brought to us from GJP to GMY is more on the Gambatte way of TPM. TPM in Gambatte is a unique activity in and of itself; it's not only like the normal TPM per se in the international market where there are pillars, elements, and so on. TPM in GMY entails the execution and coordination of all of these operations "as a system." Mr. M, the GM (TPM coordinator), said, "It is a very unusual activity since we are looking at a very specialized area, maintenance management, in TPM the Gambatte manner" (Alias, 2013).

### *The Third Case-Setting – Gambatte TS Project*

A brand-new international standard called TS16949 was created especially for the automotive industry. Similar to TPS and TPM, the researcher had the opportunity to interview Mr. N, the GMY Quality Director and project coordinator, in-depth. Middle management from every GMY department makes up the TS team. In the middle zone of the hierarchy, they are equivalent (Alias et al, 2008b; Alias et al, 2020).

Since 1994, the well-known ISO9000 and 9001 standards have been replaced with the new system known as TS16949. In contrast to the others, TS imposes further requirements on top of the ISO requirements that the members of the Gambatte team are already acquainted with. GMY was forced to hire an outside

consultant to instruct the team on what the system anticipates and how to implement it (Alias et al, 2008b; Alias et al, 2020).

## Methodology, Resolutions and Questions

Even while knowledge transfer in multinational corporations (MNCs) has been extensively studied in the literature, as the previous review shows, there is still a dearth of knowledge concerning how subsidiaries integrate manufacturing process expertise from their parent companies (Khan et al., 2019; Abbas et al., 2022; Li et al., 2022).

Therefore, the purpose of this study is to understand the methods parent businesses employ to teach their subsidiaries about industrial operations. How subsidiary replicate and adapt information from their parents, as well as the environments in which these processes take place, is another crucial subject.

How do parent companies transfer their experience in manufacturing operations to their subsidiaries, and how does the knowledge spread inside the subsidiary?

A qualitative case study comprising three instances from three separate projects in a subsidiary of a multinational corporation (GMY) involving three major manufacturing endeavors (philosophies) is used in the methodological approach.

This case study is an empirical investigation that looks at a current phenomenon within actual events where it's not always easy to distinguish between the phenomenon and the setting (Eisenhardt, 1989; Strauss and Corbin, 1998). when "the investigation has little control over events and when the focus is on a contemporary phenomenon within some real-life context and its generalisability is determined by the strength of the description of the context" (Yin, 1984, p. 23), this method is suggested.

The case study approach may be helpful when a phenomenon is big and complicated, requires a thorough analysis, and cannot be studied outside of its natural environment (Yin, 1994). In addition to quantitative data like surveys and time-series data, a case study usually incorporates a range of qualitative data gathering techniques like observations, documentation, and interviews (Crabtree and Miller, 1999).

Utilizing an inductive methodology and qualitative techniques, the study gathered data from three GMY examples: TS, TPM, and TPS. The information was gathered through 52 one-on-one interviews with project participants, moderate-participant observations, and supporting documentation.

## Findings and Discussions on Knowledge Transfer Replication Episodes

The entire data collection process includes 52 60-90 minute interviews, nine meetings (formal and ad hoc), one open seminar, two staff training sessions, three plant tours, five lunches and casual gatherings, and project documentation. The data collection process was lengthy, requiring a series of e-mails and phone conversations. The transcript of the interview and meeting materials was around 900 pages long. Pictures, papers, and photographs were also gathered during the data collection procedure. More importantly, the data is collected across a series of episodes.

An episode is a compilation of key moments and events from the knowledge transfer process that are recorded in real time, depending on the information being transferred and how. In actuality, it lasts anywhere from fifteen minutes to an hour. The significance of these stories lies in their ability to illustrate the distinctiveness of each process and provide an explanation of how the subsidiary acquires information and subsequently incorporates manufacturing methods into its day-to-day operations.

The content underwent thematic analysis based on Boyatzis (1998). Every interview was recorded, and the transcripts were examined using Boyatzis' (1998) inductive coding (themes drawn from interviews) and deductive coding (based on previous research) in line with Crabtree and Miller's (1999) template organizing



technique. Using broad themes and patterns discovered, the textual data from interview transcriptions was examined (Alias, 2013; Alias et al. 2020).

Data gathering and analysis are integral to qualitative research. Following coding, codes with similar qualities were combined to form categories, and coded data sections were categorized in accordance with the data collection procedures used (Hall, 2006). Certain codes have been assigned to multiple categories. The classified data was printed and physically organized into folders labelled with the categories. Each research topic was then encircled by the categories offered by the various data gathering methods (Alias et al, 2008c; Alias et al, 2020).

The connected patterns were fused to form sub-themes, and the resulting themes and sub-themes were gathered. The issue analysis was further validated by reviewing the literature and, on occasion, obtaining feedback from respondents, which added significantly to its substance. The saturation points for the constant-comparative technique used to analyse qualitative data were reached, and fresh discoveries validated them. This technique was important to answer the research questions (Alias et al, 2008c; Alias et al, 2020).

The connected patterns were then combined to generate sub-themes, and the resulting themes and sub-themes were grouped together. Further validation was acquired by examining the literature and, on occasion, asking the respondents for comments, resulting in a much more precise theme analysis. The qualitative data were further analyzed with a constant-comparative technique, and saturation points were acquired to confirm the new findings. This procedure was critical in answering the research questions (Alias et al, 2020; Alias and Mat, 2022)

More importantly, the episodes approach is useful in this study because it gives a detailed understanding of the information transfer process because respondents describe what really happens during the process. The episodes are provided in acknowledgment of the established value of using narratives in organizational research. This practice has gained recognition in the fields of education, psychology, medicine, and leadership, and it would help to translate real-life situations into words and images (Polanyi, 1998; Broner et al, 2001; Jashapara, 2004; Davenport, 1998).

By giving a comprehensive picture of how manufacturing practices knowledge is transferred and emphasizing the precise reality of the context, the episodic analysis helps to address the research objective of identifying the "circumstances" in knowledge transfer so that replication and adaptation can be distinguished. Based on data episodes acquired at the Gambatte site by the researcher's evaluation of the three projects, the categories are inductively created (Alias and Mat, 2022).

The episode structure is important to this study because it represents the locations, situations, and events where the majority of knowledge is created, shared, and communicated in real life. Because of this, the information transfer process is simple to analyze and comprehend, which lends the presentation a great deal of authenticity and distinction as to how knowledge transfer actually happens in a real-world setting. This is a unique aspect of the research.

Depending on what and how the information is given, an episode is a recall of events from the knowledge transfer process that were captured as they happened. It is actually between fifteen and eighty minutes long. These incidents demonstrate how unique each process is and how the subsidiary gathers information before incorporating manufacturing techniques into its regular operations, which makes them essential for understanding the knowledge transfer process (Alias and Mat, 2022, Alias and Mat, 2023).

There is a setting, discussions, and a summary for every episode. The action is described in full at the episode's pivotal sequence. The entire program is wrapped up with a summary after a more in-depth analysis of the data in an effort to address the research topic. Plant 101, Plant 102, and Plant 103 are the names of the 16 carefully chosen episodes, which should cover every plant and manufacturing philosophy involved. Therefore, it is wise to present the episodes using "the plant times across the lines" (i.e., the production plant times (X) lines) of the manufacturing facilities across the three Japanese Manufacturing Initiatives

philosophies (TPS, TPM, and TS). This way, a more comprehensive and evenly distributed illustration of the entire case can be produced throughout the entire series.

The presentation and descriptions of the episodes are also written from the viewpoints of the topic, or the people who are engaged. To supplement and enhance information obtained from interviews, observations are combined with additional interviews, enhancing the validity and reliability of the data. The layout, or how the plants and lines are arranged, is displayed in Table 4.1:

**Table 4.1:** Plant and Line Arrangements Across Episodes

<b>Gambatte (M)</b>		<b>Manufacturing Systems / Philosophies</b>		
Shopfloor	Production Lines	TPS	TPM	TS
Plant 101	Condenser	<b>Eps 2</b>		
	Evaporator		<b>Eps 8</b>	
	Piping	<b>Eps 3</b>		
	Compressor	<b>Eps 9</b>		<b>Eps 14</b>
	<i>Learning Area</i>	<b>Eps 10</b>		
	<i>Office of Restoration</i>		<b>Eps 16</b>	
Plant 102	Ventilator & Heater	<b>Eps 11</b>	<b>Eps 5</b>	
	Cooling Unit & Blower			<b>Eps 4</b>
	Radiator			<b>Eps 1</b>
	<i>Learning Area</i>	<b>Eps 12</b>		
	<i>Office of Restoration</i>		<b>Eps 15</b>	
Plant 103	ECU (Engine Control Unit)			<b>Eps 6</b>
	CDI Amplifier		<b>Eps 7</b>	
	AC Amplifier & Controller			<b>Eps 13</b>
<b>Total number of episodes per philosophy</b>		<b>Six</b>	<b>Five</b>	<b>Five</b>

The episodes are represented here, with the numbers indicating where they are positioned within the production lines according to Table 4.1. There are 16 selected episodes that cover all of the plants and manufacturing philosophies involved, which include:

**Episode No 1:** Gemba & Irregularities Treatment

**Episode No 2:** TPS Activity Panel

**Episode No 3:** Champ

**Episode No 4:** Super-Operator & Picturization

**Episode No 5:** Trainings – both theoretical & practical

**Episode No 6:** Charts with Various Pen Colors

**Episode No 7:** Daily Maintenance & Five Ss

**Episode No 8:** TPM Corner & “Why Why Analysis”

**Episode No 9:** System of Kanban Cards

**Episode No 10:** Simulation of a Production Line

**Episode No 11:** Gambatte Ownership Culture & TPS Design in Action

**Episode No 12:** Asean Jeshuken

**Episode No 13:** Complaints from Customer

**Episode No 14:** Production Line Process Control

**Episode No 15:** Machine Spare Parts Control

**Episode No 16:** Pre-emptive Maintenance

An episode is a reminiscence of knowledge transfer events that are recorded in real time according to the information imparted and the method used. It could come in the form of five to fifteen minute long trailers for movies or documentaries. The duration of each episode varies from fifteen to sixty minutes. These examples are essential to comprehending the process of knowledge transfer and to show how the subsidiary gathers data and then applies manufacturing methods to day-to-day operations (Alias, 2013). Additional information transfer properties, such as the medium, mechanism, and participant roles, are displayed in each episode (Alias, 2013; Alias and Mat, 2022).

As the main focus of the episode, the Scene describes a "component of a process or an activity." It resembles a five to fifteen-minute movie trailer, only instead of using graphics to communicate the information, it does so orally. The "real situations" in each scene are "telecast" in order to disclose the overall plot of the episode (Alias, 2013). Each scene's sub-contents are paired with real actors, viewpoints on the events, and settings to guarantee that the plot flows beautifully and that the knowledge transfer scenario is logically understood (Alias and Mat, 2022, Alias and Mat, 2023).

Two basic information transfer strategies—replication and adaptation—are demonstrated by the corpus of knowledge transfer literature. In summary, the phrase "replication" describes the process of reproducing information using an exact copy of the original source. Conversely, adaptation describes a state in which particular modifications to information are made (Szulanski, 1996; von Hippel, 1994).

Replication in this study happens when there is a need for repeat and the information transmitted accurately reflects the initial understanding. Replication happens when the parent company requires further documentation and standards. But in the case of adaptation, explanations are necessary, and information is modified to meet the demand for comprehension (Alias et al, 2020). Williams (2002) claimed that replication requires a more discrete approach and adaptation requires a deeper understanding. However, this study contributes to the body of literature by outlining the characteristics, standards, and classifications of what these approaches actually entail and how they work in real-world situations.

Among examples of how replications were found in the episodes are as below:

**Table 4.2:** Samples of developing code, sub-category, category, and theme of replication



Interview	Code	Sub-Categories	Categories	Theme
“... <u>copying at work</u> from what the super-operator and line leader do, and <u>following exactly the tasks</u> in the production line make me understand more about the new manufacturing practices...” [Sodiqin - TPS]	Copy at work Follow exactly	Copy	Mirroring	<b>Replication</b>
“...when any new knowledge come to our production line, one of the easy way to implement it is <u>through following what the line leader do and doing it simultaneously with her</u> . This would even give maximum impact, we just copy what and how our line leader does. This leads to improvement in the productivity and maintenance functions....” [Abin - TPM]	Do it together	Together		
“...to ensure that the job finishes effectively, we have to <u>work in the same pattern and to synchronise our actions....</u> ” [May - TPM]	work synchronise	Together		
“...in order to accomplish the task, we <u>always follow the way our supervisor and line leader are doing it...</u> ” [Shima – TPS]	Follow leader	Follow		
“...to make the new operators understand the <u>new knowledge</u> of this new system is easy, we just <u>ask them to follow and do what we do....</u> ” [Aileen - TS]	Follow what we do	Follow		

The 16 episodes illustrate the results of the activities, showing that direct replication (replication) or adaptation (adjustment) depends on the subsidiary's preference when using the same TPS system or lean manufacturing. TPM implementations and TS systems are comparable. The identification of episode-related actions offers yet another fascinating element. Replications are employed more when manufacturing techniques transferred from the parent, as in the TS project, are more structured and methodical (Alias and Mat, 2022, Alias and Mat, 2023). More significantly, exploring facts through episodes and learning how knowledge is presented is a critical first step in comprehending the larger picture. This follows the following detailed characteristics of replication:

**Table 4.3:** Characteristics of Replication in Episodes

<b>Replication</b>	
Characteristics	Repetition
	Mirroring
	Procedures
	Documented
	Standardized
Explicit	Routines
	Procedurals
	Codified
	Manuals
	Visualized
	Signs
Intensity	Quality
	Quantity
Place	Defined
	Undefined
Mechanism	Meeting
	Training
Medium	Language
	Communication

## Conclusion

This study contributes to the current knowledge transfer literature. This study uses an inductive qualitative case study and thematic analysis to investigate the transfer of knowledge within an MNC subsidiary during project execution. This study adds to the corpus of information about knowledge transfer by directly evaluating the dimensions and components of knowledge transmission.

The study's findings offer the framework for better understanding the process of knowledge transfer in a project setting, particularly inside a multinational corporation subsidiary. With this understanding, the implications for practice become clear, as do recommendations for future research. The study's findings demonstrated the use of episodes in snapshots to better comprehend the process and occurrences of knowledge transfer.

Finally, this study demonstrates that replication can take many different forms depending on the circumstances. It also implies that replication may occur in a predetermined order, but they could change throughout time. Furthermore, episodes are critical to understanding the entire process. Overall, these findings would benefit both the knowledge transfer component and the knowledge management sector in general. Finally, this study will provide considerable inspiration for understanding knowledge transfer within MNC subsidiary contexts and how MNCs might use it to better future operations.

## References

- Abbas, M., Jam, F. A., & Khan, T. I. (2024). Is it harmful or helpful? Examining the causes and consequences of generative AI usage among university students. *International Journal of Educational Technology in Higher Education*, 21(1), 10.
- Ahmed, I., Farooq, W., & Khan, T. I. (2021). Customers' Perceptions and their Responses to Objectives of Islamic Banks—A Three-Wave Investigation. *Asian Economic and Financial Review*, 11(1), 43. al politics and job outcomes.
- Alavi, M., and Leidner, D. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly* 25(1), pp 107-136.
- Alias, J. (2008c). Knowledge Transfer in Different Knowledge Flows of Projects: Towards a Contingency Approach, in *International Technology, Education and Development Conferences, INTED2008 Proceedings*; Valencia, Spain, ISBN: 978-84-612-0190-7

- Alias, J. (2013). Transferring Knowledge of Manufacturing Techniques within a Subsidiary of a Multinational Corporation. PhD thesis, Aston Business School, Aston University, United Kingdom.
- Alias, J., & Mat, N. (2022). Understanding Knowledge Transfer Within Mnc Subsidiary Through Episodes. *International Journal of Academic Research in Business and Social Sciences*, 12(10), pp1500-1514.
- Alias, J., & Mat, N. (2023). Positioning Knowledge Transfer within MNC Subsidiary through Episodes Development. *International Journal of Academic Research in Business and Social Sciences*, 13(10), pp517-528.
- Alias, J., Bennett, D. J., and Hall, M. (2008a). Transferring Knowledge of Manufacturing Techniques in Multinational Corporations: Preliminary Findings, in Jolly D (Ed) Proceedings of 3rd European Conference on Management of Technology, CERAM/IAMOT, Nice, France, ISBN 0-9815817-1-4 (CD).
- Alias, J., Bennett, D. J., and Hall, M. (2008b). Transferring Knowledge of Manufacturing Techniques in Multi-National Corporations: A Review of the Literature, in Harorimana D and Watkins D (Eds) Proceedings of 9th European Conference on Knowledge Management, Academic Publishing International, Reading, UK, ISBN: 978-1-906638-11-5 (pp 11-18).
- Alias, J., Mat, N., Muslim, N., Abdullah, N. A., & Senik, R. (2020). Innovation as a New Mode of Knowledge Transfer within MNC Subsidiary. *International Journal of Academic Research in Business and Social Science*, 10(11), pp1049-1067.
- Argote, L. and Ingram, P. (2000). Knowledge transfer: A basis for competitive advantage in firms, *Organisational Behaviour and Human Decision Processes* 82(1), pp150-169.
- Bender, S. and Fish, A. (2000). The transfer of knowledge and the retention of expertise: the continuing need for global assignments, *Journal of Knowledge Management* 4(2), pp125-137.
- Bennett, D. (1986). *Production Systems Design*. London: Butterworths Ltd.
- Birkinshaw, J. (1996). How multinational subsidiary mandates are gained and lost. *Journal of International Business Studies* 27(3), pp 467-495.
- Blackler, F. (1995). Knowledge, knowledge work and organisations: An overview and interpretation. *Organisation Studies* 16(6), pp 1021-1046.
- Boyatzis, R. E (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*. London: Sage Publications.
- Broner, N., Franczak, M., Dye, C. and McAllister, W. (2001). Knowledge transfer, policymaking and community empowerment: A consensus model approach for providing public mental health and substance abuse services, *Psychiatric Quarterly* 72(1), pp 79-102.
- Chini, T., (2005). *Effective Knowledge Transfer in Multinational Corporations*. Basingstoke: Palgrave Macmillan.
- Crabtree, B., and Miller, W. (1999) A template approach to text analysis: Developing and using codebooks, in Crabtree, B. and Miller, W. (Eds.), *Doing Qualitative Research*, Newbury Park, CA: Sage, pp 163-177.
- Davenport, T. H., and Prusak L. (1998). *Working Knowledge: How Organisations Manage What They Know*. Boston: Harvard Business School Press.
- Davenport, T. H., De Long, K. M., and Beers, K.C. (1998). Successful knowledge management projects, *Sloan Management Review* 39(2), pp 43-57.
- Edwards, J. S., Shaw, D., and Collier, P. M. (2005). Knowledge management systems: Finding a way with technology, *Journal of Knowledge Management* 9(1), pp 113-125.
- Eisenhardt, K. M. (1989). Building theories from case study research, *Academy of Management Review* 14(1), pp 532-550.
- Eisenhardt, K. M. and Santos, F. M. (2002). Knowledge based view: A new theory of strategy in Pettigrew, A. M., Thomas, A. and Whittington, R. (Eds), *Handbook of Strategy and Management*, London, Sage, pp 139-164.
- Ghoshal, S. and Bartlett, C. A.. (1988). Creation, adoption and diffusion of innovations by subsidiaries of multinational corporations, *Journal of International Business Studies* 19(3), pp 365-388.
- Gupta, A. K and Govindarajan, V. (1991). Knowledge flows and the structure of control within multinational corporations, *Academy of Management Review* 16 (4), pp. 768-792.
- Gupta, A. K and Govindarajan, V. (2000). Knowledge flows within multinational corporations, *Strategic Management Journal* 21(4), pp 473-496.
- Hall, M. (2006). Knowledge management and the limits of knowledge codification, *Journal of Knowledge Management* 10(3), pp 117-126.
- Jamil, R. A., Qayyum, U., ul Hassan, S. R., & Khan, T. I. (2023). Impact of social media influencers on consumers' well-being and purchase intention: a TikTok perspective. *European Journal of Management and Business Economics*, (ahead-of-print).
- Jashapara, A. (2004). *Knowledge Management: An Integrated Approach*. Prentice-Hall
- Kennedy, M., and Florida, R. (1995). The transfer of japanese management styles in two US transplant industries: autos and electronics, *Journal of Management Studies* 32(6), pp 789-802.
- Khan, F. A. J. T. I., Anwar, F., Sheikh, R. A., & Kaur, S. (2012). Neuroticism and job outcomes: Mediating effects of perceived organizational politics. *African Journal of Business Management*, 6(7), 2508.
- Khan, M. T., Khan, T. I., & Khan, S. (2020). *Innovation & Its Diffusion in Business: Concept, Stages & Procedural Practices*. *sjesr*, 3(4), 174-186.
- Kogut, B and Zander, U. (1995). Knowledge, market failure and the multinational enterprise: A reply. *Journal of International Business Studies* 26(2), p417.
- Koskinen, K. U. (2003). Evaluation of Tacit Knowledge Utilization in Work Units. *Journal of Knowledge Management*, 7(5), pp 67-81.
- Kostova, T. (1999). Transnational transfer of strategic organisational practices: A contextual perspective, *Academy of Management Review* 24 (2), pp 308-324.

- Kuo, Y. K., Khan, T. I., Islam, S. U., Abdullah, F. Z., Pradana, M., & Kaewsaeng-On, R. (2022). Impact of green HRM practices on environmental performance: The mediating role of green innovation. *Frontiers in Psychology*, 13, 916723.
- Kuo, Y. K., Khan, T. I., Islam, S. U., Abdullah, F. Z., Pradana, M., & Kaewsaeng-On, R. (2022). Impact of green HRM practices on environmental performance: The mediating role of green innovation. *Frontiers in Psychology*, 13, 916723.
- Li, H. X., Hassan, K., Malik, H. A., Anuar, M. M., Khan, T. I., & Yaacob, M. R. (2022). Impulsive and compulsive buying tendencies and consumer resistance to digital innovations: the moderating role of perceived threat of COVID-19. *Frontiers in Psychology*, 13, 912051.
- Minbaeva, D. B. and Michailova, S. (2004). Knowledge transfer and expatriation in multinational corporations, *Employee Relations* 26(6), pp 663-679.
- Mushtaq, R., Jabeen, R., Begum, S., Khan, A., & Khan, T. (2021). Expanded job scope model and turnover intentions: A moderated mediation model of Core-Self Evaluation and job involvement. *Management Science Letters*, 11(5), 1473-1480.
- Nonaka, I. and Takeuchi, H. (1995). *The Knowledge-Creating Company*. Oxford University Press.
- Oliver, N., Delbridge, R. and Lowe, J. (1998). Japanisation on the Shopfloor, *Employee Relations* 20(3), pp 248-260.
- Polanyi, M. (1998). *Personal Knowledge: Towards a Post-Critical Philosophy*. London, Routledge
- Sarwat, N., Ali, R., & Khan, T. I. (2021). Challenging, hindering job demands and psychological well-being: The mediating role of stress-related presenteeism. *Research Journal of Social Sciences and Economics Review*, 2(1), 135-143.
- Schlegelmilch, B. B. and Chini, T. C. (2003). Knowledge transfer between marketing functions in multinational companies: a conceptual model, *International Business Review*, 12(2), pp 215-232..
- Strauss, A. and Corbin, J. (1998). *Basic of Qualitative Research: Technique and procedures for developing Grounded Theory* Thousand Oaks, CA, Sage Publication.
- Szulanski, G. (2000). The process of knowledge transfer: A diachronic analysis of stickiness, *Organisational Behaviour and Human Decision Processes* 82(1), pp 9-27.
- Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm, *Strategic Management Journal* 17: 27-43.
- Szulanski, G., Winter, S.G., Cappetta, R., Vanden, C. (2002). Opening the Black box of Knowledge Transfer: the role of replication accuracy, Wharton.
- Williams, J. (2002). Practical issues in knowledge management, *IT Professional* 4(1), pp 35-39.
- Yin, R. K (1984). *Case study research: design and methods*, Sage Publications.
- Yin, R. K.(1994). *Case Study Research: Design and Methods* (2nd ed). California: Sage Publication.