Digital Transformation Strategy Roadmap For Daimler-Benz

Applied Project Final Report

By

Priyanka Mahesh

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Declaration

I, Priyanka Mahesh, confirm that this project study, which I submitted to the School of Professional Studies at New York University in partial fulfillment of the prerequisite for the award of the Master of Science in Management and Systems. This paper is a record of project work that I completed under Dr. Andres Fortino, NYU Clinical Assistant Professor of Management and Systems. I authorize the Division of Programs in Business, School of Professional Studies, and New York University to copy this report in part or whole without further reference. The permit only applies to copies produced for study purposes or inclusion in the Division of Business, School of Professional Studies, and New York University review publications, subject to customary acknowledgment conditions. I further confirm that the thesis described in this project has not been and will not be applied, in whole or in part, for the award of any other degree or diploma at this institute or any other institute or university.

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Abstract

To become a digital enterprise - and organization that continually uses technology to evolve all facets of its business models. Using technologies to increase business performance, whether through the creation of innovative goods or the reimagining of existing processes, lays out an organization's strategy for using technology to gain new strategic advantages and the method it would use to make these improvements.

Keywords: Digital Strategy, Digital Transformation, Discovery-Driven Digital Transformation Course

Introduction

Background information

Within Daimler, digitalization is resulting in the development of new mobility models and business areas. As part of this project, we will aim to enhance DICV's digital capabilities by identifying new technology-enabled use-cases to improve the customer experience and marketing verticals. Data serves as a foundation for this by enabling new services that provide consumers with added value. At the same time, the solutions are to be secure by design.

Company Background

Company Name:	Daimler India Commercial Vehicles Pvt Ltd
Head Office:	Oragadam, Mathur Post, Sriperumbudur Taluk, Kancheepuram District, SIPCOT Industrial Growth Centre- 602105 Tamil Nadu, India
Managing Director & CEO:	Satyakam Arya
Investment:	More than INR 9500 Crores
Established:	2009
Employees:	4,000 +
Major shareholder:	100 % subsidiary of Daimler AG

Table 1

Daimler India Commercial Vehicles (DICV), a wholly-owned subsidiary of Daimler AG, Germany, is a full-fledged commercial vehicle player in India and the only Daimler entity worldwide, a brand committed to its home country: BharatBenz. A unique combination of Indian engineering with German DNA, tailored to local customer requirements, BharatBenz delivers on total-cost-of-ownership, safety, reliability, and comfort.DICV manufactures and sells trucks

weighing from 9 to 55 tons in India, as well as BharatBenz buses and Mercedes-Benz coaches through its bus division.

DICV's cutting-edge manufacturing plant in Oragadam, near Chennai, spans 400 acres (160 hectares) and has a cutting-edge test track. It also serves as the company's headquarters and R&D facility. It also manufactures Daimler Trucks' brands FUSO, Mercedes-Benz, and Freightliner under one global quality level. Its vehicles are exported to more than 50 countries in the Middle East, Africa, Asia, and Latin America. DICV represents a total expenditure of over INR 9,500 crores.

Under the umbrella of Daimler Trucks Asia, DICV and MFTBC (Mitsubishi Trucks and Bus Corporation) collaborate on various topics ranging from product development, production, and R&D to Sales and market development activities.

Sponsor Information

Sponsor Name: Chulanga Perera, Chief Information Officer, Chennai, India

Responsible for the creation of Daimler Trucks Asia's Big Data unit. In terms of use case onboarding, strategically establish the working model (internal & external), operations (platform & service delivery), vendor management, governance & security, the business case & demand management.

Problem Description/Opportunity

The COVID-19 crisis seems to provide a window into the future, one in which digital has become integral to all interactions, prompting both businesses and individuals to accelerate their adoption curves almost overnight. In a world where digital networks are the primary (and in some situations, the only) means of customer engagement and automated processes are the primary source of efficiency and the basis for flexible, reliable, and stable supply chains. An environment where agile working methods are needed to keep up with seemingly daily shifts in consumer behavior. Companies must make bigger bets and reallocate money and people more efficiently as the speed of digital-related transition begins to intensify. These tactical improvements to the development, implementation and ongoing adjustment of digital strategies allow businesses to adopt a "fail fast" approach and become stronger at identifying new trends and minimizing obsolescence losses.

All of this is particularly important in the case of digital strategy, which necessitates careful consideration. Most business leaders are unsure what "digital" entails in terms of the policy. They underestimate the extent to which digital is undermining their companies' economic foundations. They still fail to recognize how quickly emerging economies are blurring market lines and changing the competitive landscape. Furthermore, responding to digital by creating new companies and diverting money away from existing ones may be risky for individual executives, who may be unable to accept (much less drive) the necessary transition. The ability to digitally reimagine the industry is primarily defined by a robust digital vision supported by executives cultivating a tradition of reinventing and inventing the modern. While these findings are consistent with past technological evolutions, digital transformation is unique in that risk-taking is becoming a cultural norm as technology becomes more sophisticated.

The following are highlights:

- Digital maturity is guided by digital strategy. Only 15% of businesses in the early stages of what we call digital maturity — where digital has changed operations, talent engagement, and business strategies — claim they have a straightforward and clear digital strategy. More than 80% of those that are technologically mature do
- From the top-down, the digital agenda is being guided. A single individual or collective heading the campaign is almost twice as likely in maturing organizations in less technologically advanced organizations. Furthermore, workers of technologically mature organizations have a high level of confidence in their leaders' technical proficiency. Digital fluency, on the other hand, does not necessitate a thorough understanding of the technology. Instead, it necessitates the need to express the importance of emerging technology to the success of the company.
- Growing digital organizations develop the skills needed to carry out the plan. Organizations at the higher end of the digital maturity continuum are four times more likely to provide workers with the required expertise than organizations at the lower end of the spectrum. Consistent with our overall results, the desire to conceptualize how emerging technology can affect the industry is a capability that many early-stage businesses lack.

Importance of the project

It's common to use the terms "digital transition" and "digital strategy" interchangeably. The two words are related but have different meanings. Customer engagement, organizational procedures, and corporate models are also impacted by digital transformation. Digital transition necessitates cross-organizational collaboration and entails shifts in corporate culture. The emphasis of digital

strategy, on the other hand, is on technologies rather than history. Changes in business models are especially relevant in digital marketing, which employs technology to develop the capabilities required for a company to become a digital business. Setting a plan is an integral aspect of the integration phase, and it ensures that technology is used in a way that benefits the company's objectives.

Five Reasons why digital transformation is essential for business growth:

- Businesses are demanding more agile hybrid IT services and agile networking capabilities, and the customer interface is a vital component of business transformation. This project gives the experience of working with the IT team and software and app compatibility for employees or external c

ustomers.

- Finance and human resources would benefit from digital innovation by transitioning away from manual procedures and automating core fields such as payroll, enabling executives to focus on more important market opportunities.
- One of the most difficult problems for many IT executives is determining how to move more data to the network's edge while keeping it stable. This is becoming a more difficult challenge, demanding strict control of entry, data compliance, and attack security. Also, the most exacting compliance protocols are rendered worthless if an underperforming network causes employees to seek flexibility elsewhere.
- Businesses will keep ahead of the game and make themselves more accessible to potential partners by developing a digital process early on and combining it with the rest of the organization. Internal systems can become more productive and agile as the

company expands, with the potential to scale. With time, digital transformation develops the technologies needed to acquire time and resources.

- Because of the Internet of Things, businesses now have access to larger quantities of data than ever before (IoT). This data can be transformed into practical strategic knowledge with the proper collection of analytical methods, allowing you to make better, faster decisions. The integration and impact of analytical methods in business processes, the more they can be used. Using AI-based technology to unlock the promise of big data may be the answer. Data and analytics innovations are increasingly surfacing. Many have advanced AI capabilities that both modernize traditional systems and sift through data at a quicker and more accurate pace, all assisting leaders in their efforts to make better, faster choices that result in better, more immediate results.

The restructuring of work and market ecosystems necessitated digital transformation, and most companies stepped up their efforts to address this sudden transition. According to Dell's Digital Transformation Index 2020, which polled over 4000 industry leaders worldwide, eight out of ten organizations accelerated their digital transformation programs in 2020.

Alternate Solutions Evaluated

Current Proposed Solution: Use PowerBI to perform business analytics and data visualization The manufacturing industry today stands apart in its drive towards digital transformation through Power BI. Modern data analysis technologies and strategies have created immense opportunities to move away from the traditional manual approach and automate critical processes to understand which KPIs are influencing business revenue and profit. With this in mind, manufacturing companies have seen increased production, competitiveness, and profitability as a result of digital transformation facilitated by BI. It has also reduced the costs of company data collection activities by allowing creativity. The apparent effects on company competitiveness have aided in the making of quicker, data-driven decisions to better prepare businesses to succeed in today's market.

Alternate Proposed Solution: Use Tableau to perform business analytics and data visualization Tableau has developed a guide to assist organizations in implementing data analytics at scale. This "blueprint" will be handy for manufacturing organizations searching for guidance about using the Tableau tool to achieve the goals of their digital transformation plan.

Solution Evaluation Criteria

Criteria	PowerBI	Tableau
Overview	Power BI uses current Microsoft frameworks like Azure, SQL, and Excel to create cost-effective data visualizations. For those already familiar with Microsoft products such as Azure, Office 365, and Excel, this is an excellent option.	Tableau is known for its stunning visualizations, but its marketing is geared toward companies with computer developers and larger budgets. The tool is available in the public (free) version, but it has limited functionality. Tableau gives you more access the more you spend, like benchmarked results from third parties.
Cost	Overall, Power BI is less expensive than Tableau, with a free edition, a paid subscription, and a more expensive scalable paid option. Despite being a Microsoft utility, Power BI users do not need to pay for Office365 to gain access to the tool's admin center GUI.	Tableau's pricing is a bit more perplexing, most likely due to the company's recent transition from a mass buy to a subscription model. The new price structure is a tiered scheme that differentiates between file links and third-party applications.

Deployment Options	Power BI is available in many variants, including standard, pro, premium, web, embedded, and report server. You could employ one or more of these services to create and publish visualizations and representations, depending on your position and needs.	Tableau is also available in many variants, including individual, team, and embedded analytics plans that can be accessed on-premises, through a public cloud server, or via a private cloud server.
Integrations	Power BI provides API access as well as pre-built dashboards for some of the most commonly used technologies, such as Salesforce, Google Analytics, email marketing, and, of course, Microsoft items, for fast insights. To create your visualizations, you can also link to utilities within your company or import files. Use the "Get Data" button to connect some data to Power BI. To completely associate, you'll need to go through a brief authorization process	. Tableau has made significant investments in integrations with common business software and commonly used links. When you log into the computer, you can see all of the references associated with your account rank. Tableau's link interface is a little more complicated than Power BI's because you must choose which data to bring into the tool when you connect. Before you start making those

		correlations, it can be useful to consider what data you want to look at and why.
Dashboards	Power BI provides real-time data access as well as drag-and-drop functionality. The whole tool is designed to reduce the time it takes to create visualizations. It provides even the most inexperienced consumers with access to effective data analytics and exploration without requiring a great deal of advanced expertise and experience.	Tableau's features are just as effective, but some of them are more difficult to use because they are locked behind menus. Use the dashboards and analyses to predict sales based on previous consumer activity, and use estimates to convert current data to meet the needs. Tableau provides live query functionality and excerpts, which is particularly useful for data analysts who are accustomed to stopping and starting.

Table 2

Considering the whole project and future scalability options, PowerBI would be the right tool as it supports real-time data access and can be easily integrated with Azure cloud services.

Selection Rationale

By making it easier for companies and their employees to draw knowledge from transactional and analytical evidence, Power BI elevates customer empowerment to new heights. It aids in the development of a data culture in which workers can make choices based on reality rather than opinions. When combined with Azure Data Services, it also aids firms in making use of big data, which is one of the most daunting objectives for the majority of companies.

The following reasoning was used to choose PowerBI over Tableau:

- Formulating clear KPI's - A successful report has a simple objective, which is why it's critical to create KPIs to ensure that your report is displaying the correct data. The easiest way to create these KPIs is to work with the end-user. If that is not the case, it is a smart idea to speak with them and learn what they want to see on the dashboard.
- Prioritize business teams and audience - Keep in mind who will be seeing your Power BI report. Likely, the knowledge you find valuable or interesting isn't what they're looking for. If you can, talk with them, as previously said. If not, try to figure out what detail will be more useful to them. This way, you will be confident that the information you provide them with can be put to good use.
- Less is More - Power BI keeps adding new features, and the design possibilities are endless. While the software's abundance of functionality, keep in mind that often the simplest and most concise approach is the easiest. It is possible to produce informative reports of material that is both available and digestible. To view data in the best possible manner, sometimes all you need is a dull map.

- Convey the story - When presenting your data, keep the story in mind and not just the numbers. You are trying to communicate the main takeaways from the data into one screen. So, make sure the information you are presenting is clear and easy to digest.
- Provide context - Don't make the mistake of creating data files that are devoid of meaning. You must explain why the information you have given is valuable to all. This can be accomplished by including actionable points and questions that enable you to get the most out of each data visualization. You may also add detail by including an introduction with more details.

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Approach and Methodology

A digital transformation strategy is a course of action for launching, assessing, and advancing a digital transformation program. Your plan will specify the market objectives you want to accomplish by digital transformation.

A successful digital transformation plan will provide you with a roadmap to guide you in this ever-changing phase. But, before you start, you should know what you want to accomplish so that you can set KPIs to track along the way.

1. Identify **all** digital Initiatives at DICV.

Figure 1

2. Create a digital transformation center of excellence team with defined roles and responsibilities; this committee will set missions, review progress, secures and allocates budget, and ensures adoption.

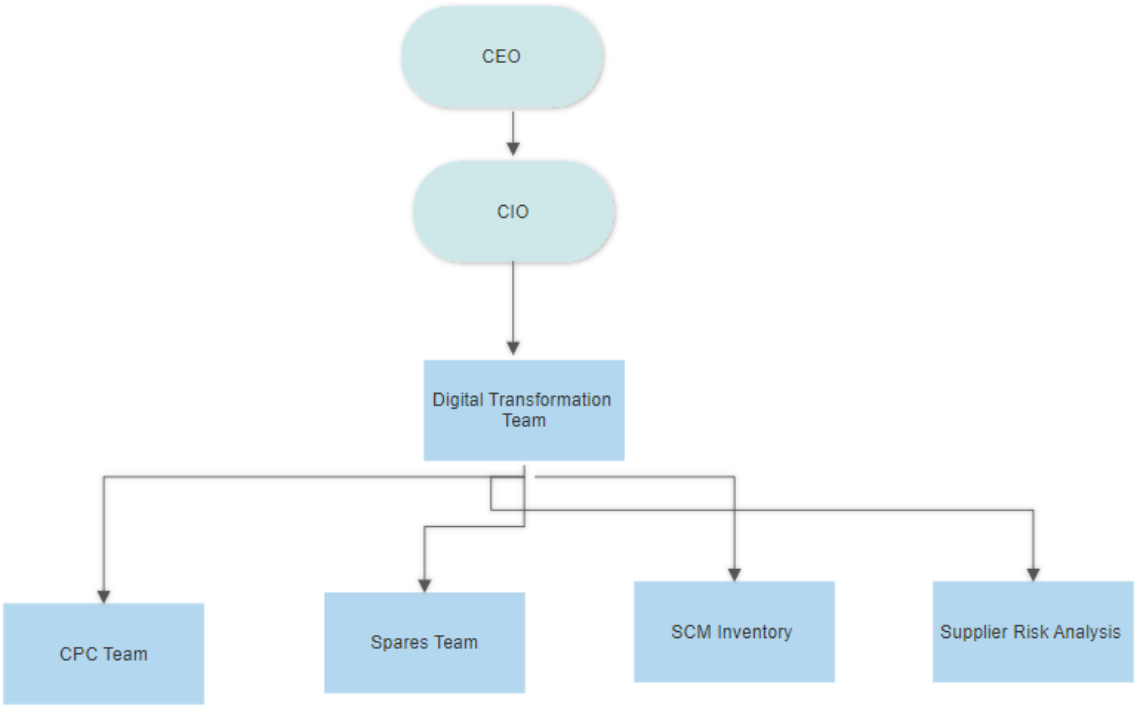

Figure 2

3. Time to implement

Organizations with world-class digital capabilities release and refresh digital applications much faster than competitors.

	Traditional	Leading	World-class	Why it matters
Time to market	**1–2** years	**2–6** months	**8–12** weeks	To compete for consumers on the basis of new tech functionality
Release frequency	**1–4** per year	**1–4** per month	**10–50** per day	To test and refine the customer experience

Figure 3

4. Perform a risk analysis for IT investments and initiatives. Identify any inherent risks of implementing the digital initiatives.
5. The Digital Transformation team should measure the state of maturity every quarter.

Maturity model :

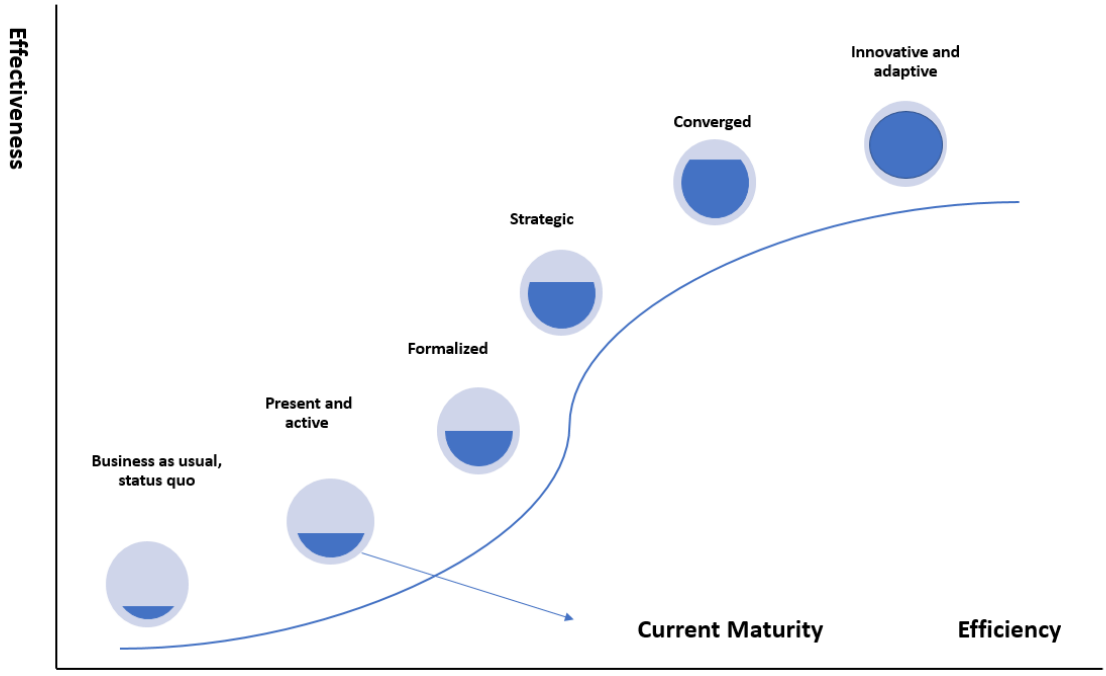

Figure 4

- Business as usual, status quo — The organization's present condition
- Present and active — A period of experimentation around the organization during which you promote ingenuity and enhanced digital literacy skills.
- Formalized — As experimentation becomes more deliberate, initiatives become stronger, and you begin to seek leadership buy-in.
- Strategic — When groups begin coordinating and exchanging analysis to develop concrete plans for the transition.
- Converged — The establishment of a dedicated digital transformation team that will lead the process, set targets, and implement programs to support the

change.

- Adaptable and innovative — When digital transformation is integrated into the organization and leadership creates a framework for tracking technologies and industry dynamics so that the enterprise can continue to grow.

6. Define and develop KPI's and metrics to measure the success of each digitalization program
7. Identify stakeholders in each digitization program - Deploy a lead digital adoption manager to track the progress
8. Maintain a record of all the programs within the Digital Transformation domain and collate requirements - Infrastructure Components, resource allocation, buy-in from various business teams, vendor requests

Project Objectives and Metrics

The goal of the project

Within Daimler, digitalization is resulting in the development of new mobility models and business areas. As part of this project, we will aim to enhance DICV's digital capabilities through the identification of emerging technology-enabled use-cases targeting Customer experience and marketing verticals. Data serves as a foundation for this by enabling new services that provide consumers with added value. At the same time, the solutions are to be secure by design.

Project Deliverables and Metrics

- Project Objective 1 – Develop Proof of Concept (where required), detailing out the business requirements and specifications

  Metric: No of KPI's per business unit
- Project Objective 2 – Develop use cases for automation of work processes

  Metric: Total automated processes
- Project Objective 3 – Develop a strategy to implement digitalization across DICV by liaising with various departments.

  Metric: Measure Digital maturity
- Project Objective 4 – Develop pilot dashboard using Power BI (dashboards, via alerts, etc.) to help stakeholders see and understand data while enabling self-serve program analytics

  Metric: No of dashboards developed for each business unit

Risk Analysis

A project's risk analysis is important because, in order to evaluate each possible risk and classify and prioritize risks, all risks should be calculated by evaluating the risk incident in terms of probability of occurrence and impact on project goals if the risk event occurs.

The impact score contains the following values:

- Marginal (1 score): The hazard may either be controlled or would commonly result in less than minor illness, injury, or system damage.
- Moderate (2 scores): The hazard may commonly cause severe injury or illness or major system damage, requiring immediate corrective action.
- Critical (3 scores): The hazard may commonly cause significant or death system loss, requiring immediate cessation of the hazardous activity or operation.

The probability score contains the following values:

- Improbable (1 score): Unlikely but possible to occur.
- Occasional (2 scores): Likely to occur sometime.
- Probable (3 scores): Likely to occur often.

The risk likelihood score and impact assessment score will be entered behind each risk, and the total risk score will be determined by multiplying the risk probability score by the impact assessment score.

Risks List

Number	Risk	Probability Score (1,2 or 3)	Impact Score (1,2 or 3)
1	Delay in gathering requirements for the dashboard in the required detail	2	3
2	Delay in data integration support from IT application teams	2	2
3	Availability of infrastructure components	3	2
4	Availability of Project Sponsor – Going on PTO	3	3

Table 3

Risk Matrix

	RISK (exposure)			
Probability (of occurrence)		1.Slight	2. Moderate	3. High
	1. Very Unlikely			
	2. Possible		(2)	(1)
	3. Expected		(3)	(4)

Table 4

Contingency Plan

Risk	Description	Probability (1-3)	Exposure (1-3)	Contingency Plan
1	Delay in gathering requirements for the dashboard in the required detail	2	3	Follow up with business teams to provide detailed KPI logic in the requested format, along with source tcodes/report names/sample outputs to kickstart the development
2	Delay in data integration support from IT application teams	2	2	Provide a quick turnaround for required data sets to be integrated with the data warehouse and identifying additional budget required for new developments to facilitate the same
3	Availability of infrastructure components	3	2	Prioritize the deployment of required servers with appropriate compute and storage capacity
4	Availability of Project Sponsor – Going on PTO	3	3	Setup final meeting with Project Sponsor in advance

Table 5

Issues Encountered

The team ran into some problems whilst working on the launch. Many of the problems that the group encountered were insignificant and had no significant effects on the project. All issues were solved immediately once indicated so that the project was able to finish on time with high quality. Here is all type of issues project team faced in the duration of the project.

The team's first challenge was that digital transition necessitates drastic systemic and process improvements. Traditional incumbents, on the other hand, have a deep corporate culture and will face opposition to introducing new workflows. Several cultural considerations will stymie digital projects, ranging from long-term hires to risk-averse bosses to corporate politics.

The second issue was the inflexible technology stack that supports monolithic applications. This is a barrier to transitioning technologies because it complicates application release dependencies and adopting Agile+DevOps methodologies. At the same time, employees may not have the experience with new technologies required to transition IT infrastructure and applications and use those new technologies.

Project Chronology and Critique

Milestone	Task	Reporting	Plan Deliver Date	Actual Delivery Date
1	Digitization using Power BI	All efforts are being made to put in place a new widget management scheme.	05/05/2021	05/05/2021
1.1	Requirements gathering	The work to initiate the project.	02/01/2021	02/01/2021
1.1.1	Identify Business Teams	Working group to evaluate teams to deploy dashboards	02/02/2021	02/02/2021
1.1.2	Send requirement gathering template	Send requirement gathering template to all business teams	02/15/2021	02/15/2021
1.1.3	Submit the Project Charter as a deliverable.	The Project Charter is handed over to the Project Sponsor.	03/15/2021	03/15/2021
1.1.4	Setup workshops with Business teams	The preliminary round of discussions	02/24/2021	02/24/2021
1.1.4	Project Sponsor Reviews Project Charter	The project sponsor reviews the Project Charter.	03/21/2021	03/21/2021
1.1.5	Project Charter Has Been Signed/Approved	The Project Sponsor signs the Project Charter, allowing the Project Manager to begin the Planning Process.	03/21/2021	03/21/2021
1.1.6	Determine detailed KPI logic	Understand from business teams what metrics are used to measure the success	03/08/2021	03/08/2021
1.2	Preparation	The work with the project's planning process.	03/02/2021	03/08/2021
1.2.1	Produce a Preliminary Scope Statement.	A Preliminary Scope Statement is created by the Project Manager.	03/02/2021	03/08/2021
1.2.2	Form a Project Team	The Project Manager selects the project staff and makes resource demands.	03/02/2021	03/08/2021
1.2.3	Meeting of the Project Team	The project kickoff conference, which involves the Project Manager, Project Team, and Project Sponsor, formally kicks off the	03/08/2021	03/08/2021

		preparation process (optional).		
1.2.4	Create a Project Plan	The team creates the project schedule under the supervision of the Project Manager.	03/02/2021	03/08/2021
1.2.5	Submit Project Plan	The project Manager submits the project plan for approval.	03/02/2021	03/02/2021
1.2.6	Approval of the Project Plan is a significant milestone.	The project plan has been authorized, and the Project Manager has been given the approval to carry out the project according to the project plan.	03/08/2021	03/08/2021
1.3	Execution	Work involved executing the project.	03/15/2021	03/15/2021
1.3.1	Project Kickoff Meeting	The Project Manager conducts a formal kickoff meeting with the project team, project stakeholders, and project sponsor.	03/15/2021	03/15/2021
1.3.2	Verify & Validate User Requirements	The project manager and staff study the initial user specifications, which are then checked with the users/stakeholders. This is where more clarity could be needed.	03/15/2021	03/15/2021
1.3.3	System of Design	The new widget management framework is designed with technical tools.	03/29/2021	03/29/2021
1.3.4	Obtain Hardware/Software	The acquisition of all infrastructure, software, and facilities requirements for the project.	03/29/2021	03/29/2021
1.3.5	Install Power BI Desktop Application	The team installs a development system for deploying dashboards and	03/08/2021	03/08/2021

		customizations of user interfaces.		
1.3.6	Phase of Testing	The technology is being checked with a small group of participants.	04/05/2021	04/05/2021
1.3.7	Install Live System	The actual system is installed and configured.	04/05/2021	04/05/2021
1.3.8	User Training	, Each user receives a four-hour training session. Managers are also given an extra two-hour class to cover specialized news.	04/08/2021	04/08/2021
1.3.9	Go Live	The system goes live with all users.	04/15/2021	04/15/2021
1.4	Control	The work involved the control process of the project.	04/19/2021	04/19/2021
1.4.1	Project Management	Overall project management for the project.	04/23/2021	04/23/2021
1.4.2	Project Status Meetings	Weekly team status meetings.	05/05/2021	05/05/2021
1.4.3	Risk Management	Efforts to mitigate risks as described in the Risk Management Plan	05/05/2021	05/05/2021
1.4.4	Update Project Management Plan	The project manager updates the Project Management Plan as the project progresses.	05/05/2021	05/05/2021
1.5	Closeout	The work to close out the project.	05/05/2021	05/05/2021
1.5.1	Audit Procurement	An audit of all hardware and software procured for the project ensures that all procured products are accounted for and in the asset management system.	05/05/2021	05/05/2021
1.5.2	Document Lessons Learned	The project manager, along with the project team, performs a lesson learned meeting and documents the	05/05/2021	05/05/2021

		lessons learned for the project.		
1.5.3	Update Files/Records	All files and records are updated to reflect the widget management system.	04/28/2021	04/28/2021
1.5.4	Gain Formal Acceptance	The Project Sponsor formally accepts the project by signing the acceptance document included in the project plan.	04/28/2021	04/28/2021
1.5.5	Archive Files/Documents	All project-related files and documents are formally archived.	04/28/2021	04/28/2021

Table 5

Lessons Learned

The whole project was able to deliver as planned with expected quality and in time, and this could not have been done without contribution and help from all team members and sponsors. In our view, the best way for leaders to crack beyond inertia and incrementalism is to take brave measures to combat and conquer on four fronts: You must fight prejudice by using experiential tactics including "go-and-sees" and wargaming to break leaders out of old forms of thinking and through today's new realities. You must combat anxiety by implementing top-team effectiveness programs that motivate senior executives to act. Pilots and formal usage case analysis must be used to combat guesswork. And you must battle initiative diffusion, which is a relentless challenge considering the need to digitize the heart while still innovating with new business models.

The companies that outperform on revenue and EBIT also differ from the rest in their embrace of the economic changes that digital technologies have wrought. Based on the results, they have done so in three specific ways: taking advantage of new digital ecosystems, focusing product-development efforts on brand-new digital offerings, and innovating the business model. We know that digital platforms have enabled the creation of new marketplaces, the sharing of data, and the benefits of network effects at a scale that was impossible just a few years ago. As these factors have converged, the digital ecosystems created by these platforms are blurring industry boundaries and changing the ways that companies evaluate the economics of their business models, their customers' needs, and who their competitors—and partners—are.

Conclusion and Summary

This project enables Digital Transformation that is much more than just sticking a few Virtual Machines in the cloud; it is the real, transformative, long-term change that benefits and impacts the whole organization. Digital Transformation is a hot topic with CEOs and the C-level suite, renewing their interest in data and what it can do to empower the organization. With the right metrics and data visualization, Power BI can help to bring clarity and predictability to the CEO to make strategic decisions, understand how their customers behave, and measure what matters to the organization. This session is aimed at helping you to please your CEO with insightful dashboards in Power BI that are relevant to the CxO in your organization or your customers' organizations.

Using data visualization principles in Power BI, we will demonstrate how you can help the CEO by giving them the metrics they need to develop a guiding philosophy based on data-driven leadership.

Limitations, Recommendations, and Scope for Future Work

Even this project was able to deliver as excepted, there are still some limitations within this project, and some of the limitations may be improved in the future similar projects in NYU MASY.

- Building capabilities for the workforce of the future
    - Redefining individuals' roles and responsibilities, so they align with a transformation's goals
    - Technology-innovation managers to bridge gaps between the traditional and digital parts of the business
    - Translate and integrate new digital methods and processes into existing ways of working
- Measure the success of Digital Initiatives using metrics
    - Percentage increase in engagement using digital channels
    - Percentage time saved required to build dashboards
    - Track growth efficiency and rate of innovation

Literature Survey

Introduction:

DICV designs, manufacture, and sell commercial vehicles such as Trucks and Buses to serve the Indian market, along with the sales and service network (Wikipedia Contributors, 2020). DICV wishes to adopt digital technologies, which can transform the end-to-end business model. To enable DICV to successfully manage this digitalization initiative, this literature review focuses on understanding the organizational culture, level of digitalization, and integrations with supporting technologies (Isensee et al., 2020). Digitalization within manufacturing has proven to produce both decreased production costs and increased flexibility as per research conducted by Lorenz et al.. However, they also observed that to implement digitalization, an organization is required to have in-depth technical knowledge that may be absent or exist only at a rudimentary level within the firm (Lorenz et al., 2020).

Business Intelligence forms the backbone of digitalization; it's paramount to be able to transform raw, conventional data into logical business insights. This would help supervisors and managers within the firm to make informed data-driven decisions. BI paves the path for business stakeholders to understand trends and deriving insights from numerous data points – Manual and System generated data. One major issue among such large organizations is that they have innumerable data sources, and it becomes a challenge to streamline data. This is where we introduce Power BI to ensure that all data sources are identified and all data is represented in a manner that fulfills the business demands.

Power BI is a tool that the organization can leverage to deploy phase 1 of digitalization within the firm. As it's a collection of software services, apps, and connectors that work together to turn your unrelated sources of data into coherent, visually immersive, and interactive insights, this would be s stepping stone in making data-driven decisions within the firm (mihart, 2020). In the following literature review, the focus will be on the benefits of digitalization in section 1, followed by section 2 that describes how business intelligence tools support digitalization in large-scale organizations.

Digitalization:

In the last decade, we observed a huge demand for automation within the manufacturing sector and a much closer integration of operation technology and information technology (Isaksson et al., 2018). Internet of things, cloud, and blockchain technology is transforming how the manufacturing industry conducts its business in the future (Isaksson et al., 2018). Industry 4.0 is also a term coined in 2011 that signifies the fourth industrial revolution, supported by advanced automation, robotics, and increased connectedness across machines(Lee et al., 2019). Industry 4.0 introduced the possibility of major change in how manufacturing industries operate, creating new opportunities and threats, for instance, Digital Twin (Lee et al., 2019). A Digital Twin connects the real and virtual world by collecting real-time data from installed sensors; the collected data is either locally decentralized or centrally stored in a cloud (Lee et al., 2019).

However, with large-scale businesses, data can often be integrated from various sources; it's not as simple as collecting data from a single sensor. A huge amount of time could be lost on data discrepancies; hence a streamlined approach would be the need of the hour (Sindhu et al., 2017).

There are some challenges businesses face before digitalization (Sindhu et al., 2017):

1. Inconsistency in reports generated
2. Data discovery
3. Understanding the requirements and KPI's that need to be reported

Digitalization can be deployed across three major areas: Technology, Society, and People (Wu et al., 2021). The trend of digitalization is the ubiquitous convergence and interoperability of everything (Wu et al., 2021).

Business Intelligence:

To marry business intelligence with digitalization, it's important to perform visual analytics of unstructured and structured data(Bringing AI to BI | Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems, 2018). By definition, Business Intelligence platforms allow the firm to easily connect data sources, visualize and discover what's important, and share that with anyone or everyone you want(mihart, 2020). Representing the varying quality of inferred data structures is crucial for making informed decisions within a firm. Deploying business intelligence tools is the first step toward implementing digitalization within an organization.

Conclusions

Based on the literature review performed, we can summarize the marriage of digitalization with Business Intelligence platforms would benefit organizations to reimagine business models (Ibtissame Abaidi & Vernette, 2018). Growing competition and consumer power have eroded traditional product-based advantages, forcing companies to shift to a new battlefield: Customer Experience. This requires integrating the entire business to demonstrate the value at every customer touchpoint. Digitally maturing organizations have organizational cultures that share common features: The Digital DNA. All successful digital transformations were driven by strong top-down digital **leadership** (*The digitalization of micro, small, and medium-sized enterprises (MSMEs): An institutional theory perspective*, 2020). For most companies, getting everyone pulling in the same direction is the real challenge. Digital DNA fosters **data-based decision-making**, opposed to decision-making based on intuition or common practice. This can be achieved by using Business Intelligence platforms like PowerBI.

The future research question should be focused on identification various data sources that exist. Successful digital companies require a digital platform that is well structured, that can only be established and sustained with the mindset of rigorously **driving down complexity.**

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Appendix A

Project Acceptance Document

Sponsor's Project Acceptance Document

This document is the means by which your project sponsor formally agrees that your project has been satisfactorily completed and that it meets the project goal and objectives that were set at the onset of the project. It is therefore important that you describe the goal, objectives, and related metrics in the appropriate section below. The "PLAN" section is to be prepared at the beginning of the project and the "RESULTS" and "ACCEPTANCE" sections after your project has been completed. Your sponsor should provide input and sign where indicated. The signed document will also be a required section in your Project Final Report. This document is a template whose sections may be expanded as necessary.

Project Name: Digital Transformation Strategy Roadmap
Student Name: Priyanka Mahesh
Sponsoring Organization: Daimler India Commercial Vehicles

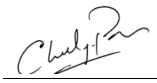
Project Sponsor Name and Title: Chulanga Perera
Project Sponsor Contact Information (email and phone): chulanga.perera@daimler.com

PLAN

PROJECT PLAN

At project start, show the project goal; the project objectives and related metrics to be used to show successful project completion. Sponsor should sign to indicate agreement.
Project Goal : Enhance DICV's digital capabilities through identification of emerging technology enabled use-cases targeting customer experience and marketing verticals.
Objective #1 Develop Proof of Concept (where required), detailing out the business requirements and specifications
Objective #2 Develop use cases for automation of work processes
Objective #3 Develop a strategy to implement digitalization across DICV by liaising with various departments.
Objective #4 Develop pilot dashboard using Power BI (dashboards, vizalerts, etc.) to help stakeholders see and understand data while enabling self-serve program analytics

I agree with the above planned project goal, project objectives, and related metrics.



03/08/2021

Project Sponsor Signature **Date:**

RESULTS

PROJECT RESULTS

Planned Start Date: 01/28/2021 **Planned End Date: 03/31/2021**
Actual Start Date: 01/28/2021 **Actual End Date: 04/29/2021**

If actuals differ from planned dates, the revised dates (Actual) are accepted by the sponsor if initialed here: **Sponsor Initials** _____

Project Goal

Was the project goal achieved as planned? ☐Yes ☐No, Reason missed: _____
If NO, please explain why this is an acceptable deviation. _____ **Sponsor Initials** _____

Project Objective #1: Develop Proof of Concept (where required), detailing out the business requirements and specifications
Did the student's project meet this objective with associated measures and metrics as established at project inception? **Objective#1** ☐has or ☐has not been met. **Sponsor Initials** _____
If not met please explain why this is or is not an acceptable deviation.
Objective #2 Develop use cases for automation of work processes
Did the student's project meet this objective with associated measures and metrics as established at project inception? **Objective#2** ☐has or ☐has not been met. **Sponsor Initials** _____

Appendix B

Project Sponsor Agreement

New York University
MS in Management and Systems
Applied Project
Project Sponsor Agreement

1. **Goals of the Program**

   For Participating Organizations
   - Begin relationship with New York University
   - Receive help from highly trained NYU graduate student
   - Provide internship opportunity for NYU graduate student
   - Receive assistance at no cost

   For NYU Graduate Students
   - Manage and implement a meaningful project aligned with their professional and educational goals
   - Hands-on experience interacting with a start-up or operational small business or organization
   - Earn credit toward completion of graduate degree by conducting an unpaid Applied Project under the mentorship of an NYU-SCPS professor.

2. **Project Sponsor and Student Responsibilities**
   - Student prepares project planning documents
   - Sponsor reviews and approves student's project plan
   - Student submits project plan to faculty supervisors for approval
   - Student conducts project according to plan
   - At predetermined milestones sponsor reviews and approves status reports submitted by student
   - Status reports reviewed and evaluated by faculty supervisors to assure student effort and project meet course requirements
   - Project sponsor and student participate in periodic project reviews with NYU
   - At project completion project sponsor completes evaluation forms
   - Student prepares final report

3. **Project Selection Process**
   - Project Evaluation Committee reviews proposed projects
   - Projects are:
     - Relevant to MS degree course content
     - Significant to the participating organization
     - Substantial in terms of duration and scope
     - Challenging to the student
     - Capable of being measured against predetermined goals

4. **The MS in Management and Systems**

   Concentrations in:
   - Strategy and Leadership
   - Systems Management
   - Database Technologies
   - Enterprise Risk Management

   Students Study Courses in:
   - Business Management
   - Marketing
   - Information Technology
   - Database Development
   - Financial Management
   - Project Management

Appendix C

Project Charter

Digital Transformation Strategy Roadmap Project Charter

Program Manager: Ganesh Radhakrishna
Project Manager : Priyanka Mahesh
Sponsor: Chulanga Perera
Prepared by Priyanka Mahesh

Name and Location of Client Organization:

Revision History

Revision date	Revised by	Approved by	Description of change
3/9/2021	Priyanka Mahesh	Ganesh Radhakrishna, Chulanga Perera	Include a representation for the digitalization process

Project Goal

The vision of corporate performance center is to digitize, connect and centralize business performance data to enable intelligent insights at central level and improve overall efficiency.

Problem/Opportunity Definition

In order to digitize business workflows, we can use Power BI gaining insights from both automated systems and manual data inputs

Proposed Project Description

1. Collaborate with crossfuntional teams to understand business processes
2. Identify trends on raw data and foster data-based decision making

Appendix D

Project Plan

NYU SCHOOL OF PROFESSIONAL STUDIES

MASTER OF SCIENCE IN MANAGEMENT AND SYSTEMS
Applied Project Capstone
MASY GC- 4100

MEMORANDUM

TO: Dr. Andres Fortino
FROM: *Your Name*
DATE: February 12, 2020

RE: **Assignment 3B – Work Breakdown Structure and Schedule**

Project Tasks Outline

1. Digitalization using Power Bi
   - 1.1 Requirements gathering
     - 1.1.1 Identify Business Teams
     - 1.1.2 Send Requirements Gathering Template
     - 1.1.3 Submit Project Charter
     - 1.1.4 Setup workshops with Business Team
     - 1.1.5 Project Sponsor Reviews Project Charter
     - 1.1.6 Project Charter Signed/Approved
     - 1.1.7 Determine detailed KPI logic
   - 1.2 Planning
     - 1.2.1 Create Preliminary Scope Statement
     - 1.2.2 Determine Project Team
     - 1.2.3 Project Team Kickoff Meeting
     - 1.2.4 Develop Project Plan
     - 1.2.5 Submit Project Plan
     - 1.2.6 *Milestone:* Project Plan Approval
   - 1.3 Execution
     - 1.3.1 Project Kickoff Meeting
     - 1.3.2 Verify & Validate User Requirements
     - 1.3.3 Design System
     - 1.3.4 Procure Hardware/Software
     - 1.3.5 Install Power BI
     - 1.3.6 User Training
     - 1.3.7 Go Live
   - 1.4 Control

Appendix E

Situational Analysis

NYU SCHOOL OF PROFESSIONAL STUDIES

MASTER OF SCIENCE IN MANAGEMENT AND SYSTEMS
Applied Project Capstone
MASY GC- 4100

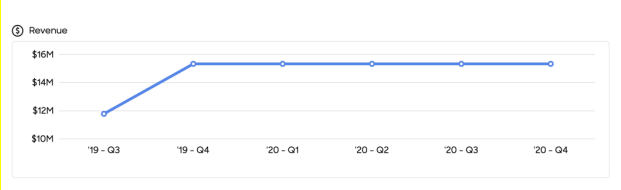
MEMORANDUM

TO: Dr. Andres Fortino
FROM: Your Name
DATE: February 18, 2020

RE: **Assignment 3A – Situational Analysis**

Applied Project Situation Analysis
Industry:
Daimler is a German multinational automotive engineering company with headquarters in Stuttgart, Germany. The founders of Daimler Gottlieb Daimler and Carl Benz are pioneers of automotive engineering (Wikipedia Contributors, 2021). Daimler is the biggest manufacturer of commercial vehicles like trucks and buses. The headquarters of Daimler India Commercial Vehicles is based in Chennai, the capital of the southern Indian state Tamil Nadu (Wikipedia Contributors, 2020). Under the umbrella of Daimler Trucks Asia, DICV and MFTBC (Mitsubishi Trucks and Bus Corporation) are collaborating on a range of topics ranging from product development, production, and R&D to Sales and market development activities (*Daimler India Commercial Vehicles*, 2019).
Products: Heavy duty truck, medium-duty trucks, and light-duty trucks

Competitors:
DICV's top competitors are as follows: Ashok Leyland, Nissan Motors, Tata Motors, Hyundai, Mahindra & Mahindra, and Eicher Motors (*Daimler India Commercial Vehicles Pvt - Overview, News & Competitors | ZoomInfo.com*, 2019).
DICV Revenue (*Daimler Trucks Asia - Overview, News & Competitors | ZoomInfo.com*, 2019):



Appendix F

Risk Management Plan

NYU SCHOOL OF PROFESSIONAL STUDIES

MASTER OF SCIENCE IN MANAGEMENT AND SYSTEMS
Applied Project Capstone
MASY GC- 4100

MEMORANDUM

TO: Dr. Andres Fortino
FROM: Priyanka Mahesh
DATE: April 12, 2021

RE: **Assignment 7 – Risk Management Plan**

*NOTE: Use this template to create your deliverable but you **MUST** remove all the notes in italics when you hand it in. The italics are guidance as to what to write and cover and are not needed in your submission.*

Project

Digital Transformation Strategy Roadmap - A plan of action outlining how DICV can reposition itself strategically in the digital economy

Risks

Make sure to list all risks of not completing the project on time, on budget, and with high quality. Add rows to the table for all identified risks.

Number	Risk	Probability Score (1,2 or 3)	Impact Score (1,2 or 3)
1	Delay in gathering requirements for the dashboard in required detail	2	3
2	Delay in data integration support from IT application teams	2	2
3	Availability of infrastructure components	3	2

Appendix G

Change Management Plan

Daimler India Commercial Vehicles

Project Change Management Plan Template

PROJECT CHANGE MANAGEMENT PLAN

Project Name:	**Digital Transformation Strategy Roadmap**
Prepared by:	**Priyanka Mahesh**
Date (MM/DD/YYYY):	**03/29/2020**

1. Purpose	
The purpose of this Change Management Plan *is to:*	
• Ensure that all changes to the project are reviewed and approved in advance • All changes are coordinated across the entire project. • All stakeholders are notified of approved changes to the project.	
All project Change Requests (CR) must be submitted in written form using the Change Request Form provided.	Link_To_Project Change Request Form
The project team should keep a log of all Change Requests.	Link_To_Project Change Request Log

2. Goals
The goals of this Change Management Plan *are to:*
• Give due consideration to all requests for change • Identify define, evaluate, approve, and track changes through to completion • Modify Project Plans to reflect the impact of the changes requested • Bring the appropriate parties (depending on the nature of the requested change) into the discussion • Negotiate changes and communicate them to all affected parties.

3. Responsibilities	
Those responsible for Change Management	*Their Responsibilities*
• Project Manager (with the Project Team)	Developing the Change Management Plan
• Project Manager	Facilitating or executing the change management process. This process may result in changes to the scope, schedule, budget, and/or quality plans. Additional resources may be required.

Template source: http://www.cvr-it.com

Page 1

Appendix H

Status Reports

Digital Transformation Strategy Roadmap

Status Report –April 2021

To: Prof Andres Fortino **cc:**

From: Priyanka Mahesh

Date: 04/12/2021

YOUR ANTICIPATED COMPLETION DATE: 05/05/2021

COMPLETION SEMESTER: Summer, 2021

Project Status Areas:	Execution Week <x>		
	Green	Yellow	Red
1. Overall Project Status			
2. Project Schedule			
3. Project Deliverables			
4. Issues			
5. Project Risks			
6. Resources & Collaboration			
7. Change Status			

**see Assessment Guidelines on the last page of this doc.

Digital Transformation Strategy Roadmap

Status Report –March 2021

To: Prof Andres Fortino **cc:**

From: Priyanka Mahesh

Date: 03/29/2021

YOUR ANTICIPATED COMPLETION DATE: 05/05/2021

COMPLETION SEMESTER: Summer, 2021 (e.g., Summer, 2025)

Project Status Areas:	Execution Week <x>		
	Green	Yellow	Red
1. Overall Project Status			
2. Project Schedule			
3. Project Deliverables			
4. Issues			
5. Project Risks			
6. Resources & Collaboration			
7. Change Status			

**see Assessment Guidelines on the last page of this doc.

Appendix I

Annotated Bibliography

NYU SCHOOL OF PROFESSIONAL STUDIES

MASTER OF SCIENCE IN MANAGEMENT AND SYSTEMS
Applied Project Capstone
MASY GC- 4100

MEMORANDUM

TO: Dr. Andres Fortino
FROM: Student Exemplar
DATE: Fall 2019

RE: **Assignment 2A – Ten References**

References

1. *Bringing AI to BI | Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems*. (2018). Acm.org. https://dl.acm.org/doi/abs/10.1145/3170427.3174367
   a) *Abstract*: The Business Intelligence (BI) paradigm is challenged by emerging use cases such as news and social media analytics in which the source data are unstructured, the analysis metrics are unspecified, and the appropriate visual representations are unsupported by mainstream tools. This case study documents the work undertaken in Microsoft Research to enable these use cases in the Microsoft Power BI product. Our approach comprises: (a) back-end pipelines that use AI to infer navigable data structures from streams of unstructured text, media, and metadata; and (b) front-end representations of these structures grounded in the Visual Analytics literature. Through our creation of multiple end-to-end data applications, we realized that representing the varying quality of inferred data structures was crucial for making the use and limitations of AI transparent to users. We conclude with reflections on BI in the age of AI, big data, and democratized access to data analytics.