

# A Study for Improving Parental Engagement with Childcare Centers in Auckland via Mobile Technology

## Advance Mobile and Wireless Technology

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### 1. Introduction

Childcare centers play a vital role in daily lives of New Zealanders where it serves as the foundation for Early childhood education and care, facilitating professional parents' participation and supporting infants and toddlers in their holistic development. Childcare centers are increasingly incorporating digital tools to enhance communication, safety, education, and administrative efficiency with the rapid advancement of mobile and wireless technology. In this era where both parents often engage in the workforce, the demand for childcare services that provide more than supervision, but also educational and social development has increased. Childcare center provides early childhood education, care, and supports children's holistic development [1]. This report aims to explore the background analysis of Auckland childcare services, evaluating the current business process.

### 2. Background Study and Analysis

As in many urban areas in world, the childcare industry in Auckland consists of a variety of offerings, from private day care centers to community-based services. Around 96.8% of children in New Zealand attend childcare centers while every center is guided by the curriculum framework of "Te Whariki" [2]. However, parents always face difficulties in finding & selecting the right childcare service due to a lack of centralized information. They must navigate through various resources to get details about locations, availability, staff, facilities, and rates, which can be time-consuming and stressful. Searching for data on different platforms can waste considerable time and inefficiencies. Each resource can have its own interface, search parameters and methodologies for performing data, which increases the duration required to collect all essential information.

The flow of collecting information from dissimilar sources can be mentally demanding. It includes safeguarding accuracy, categorizing through many data, and comparing the best option. The parental side observes their decision-making flow regarding childcare as inactive and often depends on recommendations from others rather than actively discovering numerous options. This suggests a tendency towards accepting default options rather than actively engaging in a comparative analysis

of available alternatives [3]. An Early Childcare center is considered a child's first environment outside of their home where they engage in both socialization and structural education [4]. Therefore, modern parents are more concerned about the quality of education provided by teachers in care centers.

### 3. Business Process

The ministry of education provides a certain amount of funding for three to five years old up to a maximum of 6 hours per child per day and 20 hours per week as subsidy. The number of children a childcare center can enroll and maintain depends on how big it is and where it is located. Info care is currently the most widely used system in childcare centers. The center's business process encompasses several key aspects:

- **Enrollment** – Information is received about the center's programs, philosophy, and enrollment procedures and followed by registration using manual paperwork for billing and tracking attendance.
- **Registration** - Parents interested in enrolling their children to the center fill in the form and schedule a visit to the center and move for the orientation program.
- **Communication** - Communication in childcare centers is multifaceted and vital for maintaining strong relationships between parents and caregivers. Regular updates and reports are provided to offer detailed insights into a child's behavior, keeping parents informed and engaged in their child's daily experiences. Information about upcoming events and activities are communicated through newsletters or digital platforms, allowing parents to participate and plan accordingly. In times of emergency, clear protocols ensure swift communication with parents, providing reassurance and updates as needed. [5]
- **Safety and Security** - Safety and security in childcare centers are upheld through a multi-layered approach. It begins with an inclusive risk valuation of the premises to identify potential threats, followed by the growth and operation of stringent safety policies and procedures. Staff members undergo rigorous training to ensure they are equipped to respond effectively to emergencies and maintain proper supervision of the children. Secure entry and exit procedures are enforced, along with regular drills to prepare for various emergencies. Furthermore, childcare

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centers prioritize well-being and cleanliness practices to prevent the spread of illness. Transparent communication with parents about safety measures and continuous evaluation and improvement of protocols ensure that the center preserves a safe and secure environment for the well-being of the children under their care.

- **Emergency Preparedness Plans** - Childcare centers are designed with safety features, including equipment for fire suppression, sensors to detect harmful gases, and first aid kits. child-sized furniture and equipment are also selected and arranged to minimize injury risks.
- **Staff Training** - All staff members receive training in safety procedures, including CPR, first aid, and basic childcare safety protocols. They are also trained to recognize signs of abuse or neglect and understand reporting procedures. [4]
- **Child Supervision** - Childcare centers always maintain strict supervision of children, both indoors and outdoors. Ratios of children to staff members are typically set and monitored to ensure adequate supervision and individual attention.
- **Health and Hygiene Practices** - Centers enforce strict health and hygiene practices to prevent the spread of illness and maintain a clean environment. This includes regular handwashing for children and staff, proper diapering and toileting procedures, and routine cleaning and sanitizing of toys, surfaces, and common areas.
- **Background Checks** - As mentioned earlier, thorough background checks are conducted on all staff members to ensure they have no history of criminal activity or child abuse.
- **Child Pick-Up Policies** - Centers implement strict policies for child pick-up, requiring authorized individuals to present identification and sign children in and out. This helps prevent unauthorized individuals from accessing the facility or removing children without permission.
- **Continuous Monitoring and Improvement** - Childcare centers constantly evaluate and update their safety protocols to ensure compliance with legal standards. This ongoing process of monitoring and enhancement is essential to keep the environment secure for children.

By implementing these safety and security methods, childcare centers strive to create a nurturing and protective environment where children can learn, grow, and thrive.

#### 4. Overview of the Problem

Early childhood education (ECE) is crucial in New Zealand, especially for children from disadvantages backgrounds, as it sets them up for better academic and social development. According to a previous research study in New Zealand, children

who participate in early learning programs tend to excel academically and socially throughout their schooling [6]

However, the high cost of childcare in New Zealand, often forces mothers to leave their jobs or seek unconventional childcare solutions, hindering their ability to participate in the workforce. [7] The government's "He Taonga te Tamaiti" — Early Learning Action Plan aims to ensure all children have access to early learning programs [8]. However, despite government 20 hours subsidies, childcare costs in New Zealand remain among the highest globally, exceeding \$300 per week for children over three years old. [9] According to figure 1, it shows the cost of New Zealand childcare is among most expensive in the world specially compared to the other countries in the region. [7]

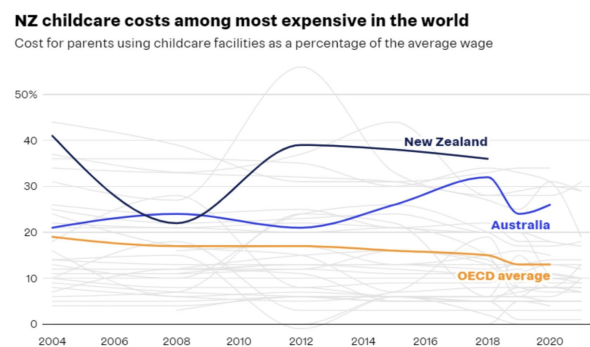


Figure 1: NZ childcare costs among most expensive in the world [10]

This financial burden leads many women to make career sacrifices or face difficulties finding affordable and quality childcare options [9]. As the figure 2 shows from a previous research done in new zealand, it appears that there's a reduced participation intensity of children between age 3-4, beyond the government concession of 20 hour period. [11]

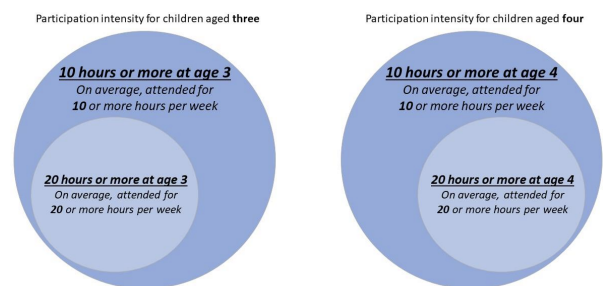


Figure 2: Participation intensity grouped by age and the number of hours [11]

It further shows that the childcare centers in New Zealand mostly operate independently, each with their own websites and communication channels. This decentralized setup causes inefficiencies for parents, experience teachers, especially new immigrants, who will require to individually contact multiple centers to inquire about availability, suitability and employment opportunities. This fragmented system inconveniences for both parents and potential employees while posing challenges for childcare centers in reaching more potential clients and enrollment processes.

## 5. Analysis and Justification for the proposed solution.

As per the analysis, the issue of disconnected childcare centers in Auckland underscores the need for a centralized communication platform to streamline the enrollment process to improve coordination between parents and centers. Addressing this problem can enhance accessibility, efficiency, and satisfaction for all stakeholders involved.

### 5.1. Analysis of potential solutions.

The issue at hand revolves around the lack of connectivity and centralized communication among individual childcare centers in Auckland. Considering the facts and it appeared four, but not limited solutions as follows:

- **National Online Portal** - Develop a government-backed online portal that serves as a centralized platform for all childcare services across New Zealand.

**Benefits:** This portal could provide comprehensive information on available childcare centers, including location, capacity, fees, programs offered, and staff qualifications. It would allow parents to apply to multiple centers through a single application form, track their application status, and receive updates.

**Limitations:** The Early Childhood Council has already raised several concerns to the new government. [12] However, building such a centralized national platform could take a considerable time and will not be sufficient to address the current situation at hand as it requires an immediate solution.

## References

- [1] I. Duhn and J. Ritchie, "Making "eco-waves": Early childhood care and education sustainability practices in aotearoa new zealand," *Children, Youth and Environments*, vol. 24, no. 2, p. 123, 2014.
- [2] M. of Education, "Education in new zealand," <https://www.education.govt.nz/our-work/our-role-and-our-people/education-in-nz/>, 2023.
- [3] S. J. Barraclough and A. B. Smith, "Do parents choose and value quality child care in new zealand?" *International Journal of Early Years Education*, vol. 4, no. 1, p. 5–26, Jan 1996.
- [4] M. Fenech and J. Sumsion, "Promoting high quality early childhood education and care services," *Journal of Early Childhood Research*, vol. 5, no. 3, p. 263–283, Oct 2007.
- [5] L. Mitchell, M. Haggerty, V. Hampton, and A. Pairman, *Teachers, parents, and whānau working together in early childhood education*. New Zealand Council for Educational Research Wellington, New Zealand, 2006.
- [6] M. of Education, "Early learning participation," May 2023. [Online]. Available: [https://www.educationcounts.govt.nz/\\_data/assets/pdf\\_file/0003/208713/Early-Learning-Participation-Final-1.pdf](https://www.educationcounts.govt.nz/_data/assets/pdf_file/0003/208713/Early-Learning-Participation-Final-1.pdf)
- [7] I. Sin, "Access to childcare interim report 2: How persistent are issues with access to affordable childcare?" <https://women.govt.nz/sites/default/files/2022-04/Access>
- [8] M. of Education, "Education in new zealand," [https://conversation-space.s3-ap-southeast-2.amazonaws.com/SES.0342.ELS.10YP\\_Final+Report\\_Web.pdf](https://conversation-space.s3-ap-southeast-2.amazonaws.com/SES.0342.ELS.10YP_Final+Report_Web.pdf), 2019.
- [9] M. Duff, "I can't afford to work: 'free' childcare is a myth, and costs for parents are high," <https://www.stuff.co.nz/national/300696444/i-cant-afford-to-work-free-childcare-is-a-myth-and-costs-for-parents-are-high?rm=a>, Sep 2022.
- [10] C. P. A. Group, "Election 2023: Early childhood care and education toolbox," <https://www.cpag.org.nz/media-releases/election-2023-early-childhood-care-and-education-toolbox>, Aug 2023.
- [11] M. of Education, "Early childhood education participation intensity measure," Nov 2023. [Online]. Available: [https://www.educationcounts.govt.nz/\\_data/assets/pdf\\_file/0003/195816/ECE-Participation-Intensity-Measure-June-2023-Results.pdf](https://www.educationcounts.govt.nz/_data/assets/pdf_file/0003/195816/ECE-Participation-Intensity-Measure-June-2023-Results.pdf)
- [12] M. Abbas, "New zealand's daycare shortage crisis: Parents wait over a year," Nov 2023. [Online]. Available: <https://bnnbreaking.com/breaking-news/education/new-zealands-daycare-shortage-crisis-parents-wait-over-a-year/>