Exploring Business Model Innovation in the Norwegian Grocery Market

Beniamino Callegari, Adeline Hvidsten and Ranvir Rai
Kristiania University College, Oslo, Norway
Ben.Callegari@kristiania.no
Adeline.Hvidsten@kristiania.no
Ranvir.Rai@kristiania.no

Abstract: This paper focuses on the under-explored dynamics between physical grocery stores and e-grocery through the lens of business model innovation. While e-grocery is expected to grow, we still know little about how it will affect the existing physical stores - and how these actors are reacting to this potential threat. We draw upon in-depth interviews with senior executives from grocery companies, academics, and experts. The data has been subsequently discussed in the light of market literature and the study’s theoretical framework. We find that e-grocery and physical grocery operate with two very different business models, where neither would benefit from emulating the other. While some of the physical chains have been developing e-grocery as add-on services, they are not profitable because they are not compatible with the current business model. Seeing this, physical shops are primarily concerned with competing with other physical shops to survive the growth of e-grocery despite of the development from pure e-grocery players. However, these sustaining actions might over time turn consumers digital, as the reduction of number of physical stores might spark the change in consumer behavior needed by e-grocery to accelerate its growth.

Keywords: e-grocery, business model innovation, digitalization, disruptive innovation

1. Introduction

Since the 1990s, numerous market players and smaller entrepreneurial companies have tried to establish e-grocery models with varying degrees of success, both in Norway and globally. In Norway, the retail giant Rema attempted to sell groceries online in the late 1990s, but quickly realized that the consumer market was undeveloped (Ryde 2021). In 2013, an entrepreneurial team of ten people established Kolonial.no (hereinafter Oda) and in 2016 entered a purchasing collaboration with Rema (Kolonial 2016). Today, Oda is the country’s only pure full-range e-grocery player. Since 2013, several other actors have entered the e-grocery market, including Marked.no, which in 2018 shut down operations as they failed to achieve a profitable business (Solem 2018). Hence, the debate about profitability as a barrier to Norwegian e-groceries has been persistent, especially since 2013, and amongst actors and experts, opinions are divided (see Waldeghebriel 2018; Hopland 2018; Gisholt 2014). The main themes that have been highlighted in these discussions are the costs of grocery picking, storage and distribution, as well as consumers’ evolving shopping habits.

In our study, we focus on the dynamic interplay between physical shops and e-grocery as they both complement and compete in the same market with distinctively different business models. Hence, we draw insights from the literature of business model innovation to explicate how digitalization create both opportunities and threats for incumbents and new entrants. We have drawn upon various sources to generate rich empirical data, through semi-structured interviews with senior executives from grocery companies and domain experts from academia.

What we find is that, for e-grocery to be profitable for physical grocery, a dedicated, supporting business model is required. While the physical assets and capabilities of established grocery chains can be effectively used to operate a digital service, with some small additions, obtaining value creation and long-term profitability is difficult. Meanwhile, born-digital firms can set up entirely new processes and do not seek to expand their operations in a physical direction. Thus, we argue that physical and digital capabilities are different, and although one set can be deployed to emulate the other, this is not profitable, neither in the short nor the long term.

The article is organized as follows. After this introduction, section 2 reviews the literature and section 3 describe our theoretical framework of reference. Section 4 illustrates our methodology. Section 5 contains our findings, which are discussed and concluded in Section 6.
2. Literature review

With exception of a few studies (Jocevski et al., 2019; Matzler et al., 2018; Sorescu et al., 2011), the influence of the digital transformation from the retail business model perspective has been underexplored. The rise of e-commerce has extended traditional value chains by changing the logic of value creation, more specifically, influencing how retailers seek competitive advantage by proposing, creating, and capturing value (see Timmers, 1998). With more consumers having access to an internet connection and with the introduction of reliable electronic payment options (Li et al., 2020), consumer trust in online retailing has increased (Labrecque et al., 2013; Lubis, 2018; Simonson and Rosen, 2014). This has led traditional retailers to find ways to integrate existing and extensive parts of the value chain, witnessing the influx of hybrid forms of multiple channel retailing (Beck and Rygl, 2015), such as multi-channel and omni-channel strategies (Verhoeft et al., 2015). In food retail, digitalization is now enabling new platforms for food provisioning that are promoting novel and more sustainable ways of not only provisioning but also storing, preparing, and cooking food (Michelini et al., 2018). These developments challenge the need and role of physical retail space and thus, traditional retailers.

The retailing literature is divided on the long-term development of e-grocery, with some researchers forecasting the secular decline and possible end of physical retailing (Helm et al., 2020), and others recognizing digitalization as a potential new source of competitive advantage for the sector (Mende, 2019; Reinartz et al., 2019). Sorescu et al. (2011) described digitalization as providing opportunities to physical retailers for gaining operational efficiency and effectiveness, designing lock-in themes, promoting value capture strategies, increasing customer efficiency and engagement, and, finally, influencing customer effectiveness. Considering the significant disagreement present on the literature, it is reasonable to assume that the actual effect of digitalization on the retail sector will be significantly affected, if not determined, by contextual factors, to which we now turn.

Norwegian grocery retailers had total revenue of circa 180 billion NOK in 2020 (Nielsen, 2020). Norway has the highest grocery per capita store density in Europe. Stores have recently decreased in number and become bigger with longer opening hours. E-grocery is the fastest growing segment in Norway. The turnover of Norwegian online grocery retailing in 2020 was estimated to be around 3 billion (Nielsen, 2020). Consumers purchasing grocery online are typically in the 30–40 age range. Geographical differences are nonnegligible. In fact, whereas in Oslo 15% of residents have purchased groceries online, this percentage is much lower in less densely populated areas (Solem, 2018). More than 50% of e-grocery consumers purchase goods online less than once a month making this channel marginal for Norwegian households’ grocery purchases. Among e-grocery users, only 16% purchase grocery through this channel more than in supermarkets. Additionally, 65% of e-grocery buyers only purchase 10% of their monthly groceries through this channel (Solem, 2018).

The new e-grocery market sprout can create both business opportunities and challenges for grocery retailers due to its intrinsic peculiarities (Mortimer et al., 2016). The e-grocery retail market includes pure internet actors and multi-channel ones. In different retail markets, pure online players have experienced rapid growth. However, omni-channel grocery retailers have to deal with low profitability and high risk when offering online services, yet the size of the internet channel is still increasing (Larsen & Klyve, 2017). Consumers tend to use online channel as a complement for purchasing grocery rather than a substitute for buying groceries at stores (Couchelis, 2004). Dreyer and Bakås (2017) claim multi-channel retailers in Norway face low profitability and high risk. In fact, 123lever company has announced bankruptcy in 2017 and Kolonial (now Oda) in the same year, the biggest online grocery store in Norway, laid off 100 employees due to competition (Solem, 2018).

3. Theoretical framework

A business model (BM from now on) can be defined as the “architecture of the value creation, delivery, and capture mechanisms [a firm] employs” (Teece, 2018, p. 41). With the help of BM concepts, a company is able to describe its business in terms of “what it does,” “what it offers” and “how the offer is made” (Ritter and Lettl, 2018). Digitalization, which has been defined as the exploitation of digital opportunities to improve both the performance and the scope of the business (Westerman et al., 2011), is a macrotrend currently influencing every industry, as it impacts corporate strategies and challenges existing BMs to be reconsidered and evolved to match the new opportunities, challenges and competitors (Linz et al., 2017). Digitalization affects primarily the value proposition, internal infrastructure management and customer relationships areas of existing BMs (Arnold et al., 2016; Kiel et al., 2017). Previously established companies are confronted by new entrants redefining the equilibria of even mature industries (Linz et al., 2017), as existing BMs become obsolete and are either replaced by new ones or evolved into new forms (Matzler et al, 2018).
The extent, however, to which digitalization impacts corporate activities differs from industry to industry and takes time since “business models are more context-dependent than technology,” depending on resources and capabilities that are available within the respective company (Teece, 2018, p. 45). The related challenges are well illustrated by the unified business model innovation typology (BMIT from now on), which expands on the previous dichotomous classifications of innovation processes to better capture the strategic and managerial aspects involved in BMI. The BMIT classifies innovation along three dimensions: technology, value network, and financial hurdle rate, dividing the innovation space into two zones: sustaining innovation and business-model innovation proper (Koen et al, 2011). Sustaining innovations are processes of change whose main aim is to support, leverage and augment the value of existing assets, thus maintaining, and enhancing the underlying BM. BMI, instead, requires companies to succeed with business models that require a lower-than-normal financial hurdle rate or the development of new value networks, something that is often challenging for established firms (Christensen and Raynor, 2003; Govindarajan and Trimble, 2005).

From this perspective, we would expect digitalization to affect a mature sector such as grocery retail through two primary innovation channels. Established firms will integrate digital technologies through sustaining innovation efforts, aimed at maintaining the value of their expensive physical assets in the face of new technological trends. BMI will be pursued instead primarily by new, born-digital, entrants seeking to establish themselves as the primary providers of e-grocery solutions, delivered through substantially new value networks as compared to more established players. The relative success of these two strategies will depend on both the capabilities of the firms involved and the relevant contextual factors, determining the relative value of the business opportunities unearthed by digitalization. Furthermore, we expect that, in the long-term, the interaction between these different innovative efforts will also play a significant role in determining the evolution of the sector as a whole.

4. Methodology

As part of this research project, semi-structured interviews were conducted with key stakeholders across companies in the market and domain experts from academia. Informant recruitment started with a thorough mapping of key associates within prominent grocery stores. Media statements, podcasts, industry reports, players' websites and LinkedIn profiles were reviewed in the mapping and used to get in contact with informants. The same approach was employed when identifying relevant experts and academics. We aimed at obtaining a wide selection of informants, to map the phenomenon from different angles (Tjora 2012), eventually obtaining data saturation. Furthermore, we used data gathered from earlier interviews to inform our later efforts, verifying the reliability of the information received in the process. In other words, we selected respondents who were experts in the subject domain or have experiences of interest to us - preferably through their positions. Table 1 presents the informants that have been interviewed, consisting of senior executives at three different companies and two academics from universities.

Table 1: Overview of in-depth qualitative interviews

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Position</th>
<th>Organization</th>
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<tbody>
<tr>
<td>1</td>
<td>Co-founder</td>
<td>Oda</td>
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<tr>
<td>2</td>
<td>Leader</td>
<td>Norgesgruppen</td>
</tr>
<tr>
<td>3</td>
<td>Strategist</td>
<td>Coop</td>
</tr>
<tr>
<td>4</td>
<td>Academic</td>
<td>NTNU</td>
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<tr>
<td>5</td>
<td>Academic</td>
<td>Norwegian School of Economics</td>
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In-depth interviews provide an effective means of obtaining rich insights into the phenomenon of interest, as they provide access to detailed contextual information and individual insight (Gwinner, Gremler and Bitner, 1998). The interviews were performed with open-ended questions to generate high-quality data from a relatively small sample of respondents (Brinkmann & Kvale, 2015; Wengraf, 2001). The questions in the interview guide were based on the theoretical domain of business model innovation, adapted to the specific challenges brought forward by digitalization. Audio recordings were made only after having obtained explicit consent from the informants (Johannessen et al., 2011, p. 149).

When analyzing the data, we first carried out inductive open coding of the interview transcripts to identify first-order categories. Following this preliminary categorization, we applied selective coding (Flick, 2009) to identify
the sector-specific aspects of the ongoing digitalization processes. We performed this procedure iteratively, moving back and forth between codes and data until consensus among the researchers emerged. After coding our findings from the in-depth interviews in NVivo, we have summarized them in the next section.

5. Findings

Earlier we introduced characteristics of the Norwegian grocery market, such as the high ratio of grocery stores per capita, the geographical dispersion of physical retailing, and the limited but quickly growing e-grocery market, mainly within the densely populated areas of Norway. Here, we explore grocery actors’ reactions to the increasing opportunities and threats of digitalization.

Some of our informants described physical stores as initially “closing their eyes and hoping e-groceries goes away”. As the e-grocery segment grows, however, different reactions to this potential threat emerges. Some traditional grocery actors have invested in their own platforms for e-grocery. Norgesgruppen, which controls around 50% of the market of physical groceries has multiple types of stores under their umbrella, and in 2017 they invested mainly into e-grocery for one of their high-end stores, Meny. They wanted to participate in the learning process of digital transformation, not falling too far behind e-grocery actors such as Oda. They quickly found, however, that there are multiple hurdles for physical stores expanding their business online.

The first issue for Norgesgruppen and other physical store actors is that most of their stores are managed by local grocers who decide if they want to go online or not. Local competition and the grocer’s own motivation and technological competence are deciding factors:

“… They see that no one is making money online, “why should I go online?”, so it depends on the competitive situation of the individual store. Some grocers are innovative and want to test new technology quickly, and they are allowed to [go online]” (Respondent 2, Norgesgruppen)

Respondents argue that it is easy to go online; it requires joining a platform, a handheld device and transportation of wares. Store employees do the picking. This means, however, that the jobs currently done by the customer themselves, such as picking their groceries and driving them home, now fall to store’s employees – without reducing any of the fixed costs. Especially “last mile”-transportation from store to customers’ homes is expensive. Thus, the more innovative local grocers are not necessarily rewarded for their efforts, as online shopping and delivery does not increase revenues, degrading incentives for less innovative actors to follow.

Another large actor, the co-op chain Coop, has seen the growth of e-groceries but chosen to remain on the side, at least for now. Our respondent argues that it would be against company policy as a co-op to use money from profitable but de-centralized parts of Norway to invest heavily in e-groceries – a market seeing significant growth almost exclusively in the few large cities and central areas. Furthermore, as others also point out, Coop sees little merit in “turning customers digital”, potentially cannibalizing their physical stores and leading them into the hands of Oda and other, more experienced and focused e-grocery players. As the market share for physical grocery is still the largest by far, it is more profitable to keep their focus there.

From the perspective of established physical stores, e-grocery is an extra service provided to satisfy their customers and keep up with digital actors, but far from a profitable endeavor at present. They rather focus on competition with other physical stores and innovating on automation: this might compensate for any margins potentially lost to e-grocery. This perspective is heavily influenced by the high density of grocery shops in Norway, which heavily influences consumer behavior:

“We shop 4-5 times a week, so we use the store as a grocery list and as a refrigerator in a way. Because there are stores everywhere, the Norwegian consumer overall has 3-4 stores to choose from at a shopping distance” (Respondent 2, Norgesgruppen).

The high shop density means high competition between stores, especially in the competitive budget-segment, which has the largest volume. Here, the concept and business model of the stores are so similar that differentiation lies almost exclusively in the “color of the signs”. Competition takes place on the basis of aggressive marketing strategies focused on price, advertising and distribution. This affects profits, leading to very tight margins. Many stores are simply not profitable, due to the overcrowded market and high fixed and variable costs. The former is due to high real estate prices, the latter due to relatively high entry-level wages. The tight margins are significantly affected when new physical shops are established in the near vicinity, with
firms constantly monitoring the market to ensure the right mix of budget, high-end and 24-hour groceries in any given physical area.

When and if e-grocery will mount additional pressure on the already modest margins obtained by physical grocery, informants on both sides of the digital divide agreed that this will lead to heightened competitive pressures between physical stores. This is a way for physical stores recover the lost margins, and a resulting reduction in the number of physical stores, with corresponding job losses:

“I think it will adjust. Let’s say an 80 million NOK store loses turnover to e-groceries, but then a nearby store closes down: for example, a Kiwi shop that had 40 million but is now down to 28 for the same reason. They say, “28 million is not viable, lets close”. And then 28 million is available, and the 80 million store is back on let’s say 75, because it takes part of the turnover form the competitor. So, you have these dynamics that you can get, so I think that the total effect of investing in groceries online will be fewer stores, but about the same amount of turnover in the stores that are there today so you can see that profitability is maintained” (Respondent 3, Coop)

“They must compensate for it [e-grocery] and close stores, and then hope the volume goes into the remaining stores, so they are then able to maintain their in-store sales. And then, the question emerges: which shops will go? Is it Rema, is it Kiwi or is it Coop? It will be difficult either way, you cannot get past it. This is a change in the value chain ... It will be very expensive, and they will take great losses” (Respondent 1, Oda).

While not committing wholeheartedly to e-groceries, actors operating physical stores do invest in digital technologies supporting their current business model. Our respondents focused on automation in back-end functions such as warehouses, making the shopping experience seamless for customers though self-service ala Amazon Go. Some chains already have unmanned 24-hour stores in Oslo and “ready-made dinner” offers, playing into the established shopping habits of Norwegians. For the future, respondents argued that hybrids of physical/e-groceries could be made more profitable through the integration of more advanced technologies, such as automated picking, dark stores, and driverless cars – as it would lower the high fixed and variable costs experienced today.

While physical stores see e-grocery as extra services to the benefit of physical stores, focusing mainly on physical competition and the potential benefits of automation, Oda, an e-grocery player, has managed to break even. They have achieved this through learning, continuous in-house technological development, and the construction of an entirely new business model, far from the established routines of physical chains:

“It will be extremely expensive for [competitors] to try to copy us now. We have momentum, we have scale, we have the technology. For every [Norwegian] krone we sell we make money, and for each krone they sell online they will lose money for a long time, in addition to the cannibalization effect ...” (Respondent 1, Oda).

The co-founder of Oda argues that physical stores and e-grocery operates with distinctly different business models than their competition “[they are] grocery players, but this is e-grocery. It has less in common with their core business than [grocery players] have in common with the car industry” (respondent 1). Indeed, e-grocery has been developing their proprietary technology as their main concern and driver of competitive advantage, while physical shops are mainly concerned with logistics and automation.

While Oda is growing, there are still several challenges facing e-groceries. A key issue revolves around how to profitably serve the small, geographically located market. Oda is now servicing eastern Norway, chiefly Oslo and its suburbs, and cities in other parts of the country. Oda operates based on centrally located warehouses – more are currently being built, but they represent a significant fixed cost that, at the moment, is inconsistent with the size of the fragmented countryside markets. Another challenge is Norwegian consumer patterns, reinforced by the convenience provided by the large amounts of physical shops. Here, Oda has focused on improving same-day delivery and more precise delivery timeslots – but e-grocery still requires more planning that simply going to the store. However, opportunities are also present. Respondent 4, a professor in industrial economics, highlights how network effects, enabled by digital services could lead to lower transaction costs through effective use of big data analytics. The same data could be used to inform effective marketing campaigns grabbing the customers attention, leveraging potential interaction effects between products. Although e-grocery remains a niche at present, it retains the potential to scale without increasing the average cost over time, realizing increasing returns in the process.
6. Discussion and conclusions

In this paper we addressed the underexplored influence of the digital transformation from a business model perspective (Joccevski et al., 2019; Matzler et al., 2018; Sorescu et al., 2011). The findings paint a varied picture of the impact of digitalization on the Norwegian retailing sector. Digital technologies have entered the grocery sector under many guises, leading to increased automation in physical shops and the development of a number of competing e-grocery services. The latter have been created both by existing physical players and by a small number of new, born-digital entrants. Despite these significant developments, however, digitalization has neither revolutionized the field nor significantly affected its long-term issues, yet. E-grocery has established itself as a fast-growing, but small and geographically localized, niche. While the born-digital Oda has recently succeeded in achieving profitability, competitors have failed to emulate this success; while some physical players have successfully developed an e-grocery offer, the gains they have reaped so far remain modest, putting into question the viability of this avenue of expansion.

What we find is that, for e-grocery to be profitable for physical grocery, a dedicated, supporting business model is required. While the physical assets and capabilities of established grocery chains can be effectively used to operate a digital service, with some small additions, value is not created in the process. The assets are not leveraged, but rather put to an additional use, competing for resources with the physical retailing process. Further, while physical retailing suffers from tight margins, it is at least profitable. Further evidence in this direction is provided by born-digital firms, which set up entirely new processes and operations when contrasted with physical shops. Additional support to the hypothesis comes from the fact that successful digital players do not seek to expand their operations in a physical direction. Thus, we argue that physical and digital capabilities are different, and although one set can be deployed to emulate the other, this is not profitable, neither in the short nor the long term.

This does not imply, however, that physical shops cannot engage with digitalization; it does mean, however, that, for them, digitalization is a sustaining innovation, their technological adoption efforts aimed “to fit the familiar frameworks of their sustaining businesses” (Koen et. al, 2011, p. 7). Digitalization, especially in the form of automation, provides relief to the profitability problem by lowering labor costs; however, the significant competitive pressures lead to costs-savings being passed on to the customers, as price-based marketing campaigns steadily erode margins. While failing to adopt technologies is not an option, digitalization does not solve the underlying issue of cut-throat competition. In fact, the addition of e-grocery might eventually make things worse. A process of downscaling and merging appear to be inevitable in the future.

We found that most actors see a reduction in physical shops in the future (Helm et al, 2020). Ironically, this response to digital competition may end up further strengthening e-grocery growth, as the reduction of physical shops would reduce their convenience and therefore affect the consumer behavioral patterns constraining the further growth of the e-grocery sector. Indeed, the born digital entrant Oda sees changing consumer behavior as one of their main tasks for the future. At present, digitalization has generated business model innovation only within a small market niche, and has not solved, or even significantly affected, the structural issues affecting the physical side of the business. And yet, the continued profitability issue of physical stores, combined with the continuous, if slow, shift in consumer behavior, may yet produce the conditions required for digitalization to begin disrupting sectorial dynamics in the near future.

The results of our study are affected by several limitations. First, by focusing our empirical work exclusively on the Norwegian case, we cannot meaningfully assess how our results could be transferred to a different geographical context. In fact, the dispersion and thinness of the Norwegian market, together with the high physical shops density, have emerged as key factors affecting the digitalization of the sector. Broader, comparative empirical efforts are needed to distinguish between the relative impact of technological, institutional and contextual factors. Second, we did not include among our informants either consumers’ associations’ representatives or managers from failed e-grocery firms. A broader perspective could reveal new, relevant factors to explain past developments and current processes. Finally, an investigation of the technological foundations of the digitalization process could enable a more critical and meaningful evaluation of the future perspectives held by the various players. On these and other aspects, more research appear to be needed.
Acknowledgements

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Appendix A: Interview guide with market actors, experts and academics.

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<tr>
<th>Phase</th>
<th>Category</th>
<th>Question</th>
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<tbody>
<tr>
<td>Introduction</td>
<td>Informant information</td>
<td>Can you tell us a little about yourself and your background?</td>
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<tr>
<td></td>
<td></td>
<td>What makes the grocery market so interesting for you?</td>
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<td></td>
<td></td>
<td>Based on your experience in the market, what are the most exciting / important developments so far?</td>
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<tr>
<td>The market</td>
<td></td>
<td>What characterizes the Norwegian grocery market?</td>
</tr>
<tr>
<td>Attributes</td>
<td></td>
<td>What do you consider to be the most important performance attributes for customers in the grocery market?</td>
</tr>
<tr>
<td>Innovation</td>
<td></td>
<td>How do you innovate towards these attributes?</td>
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<tr>
<td>E-grocery</td>
<td></td>
<td>What potential do you see in pure e-grocery shopping?</td>
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<tr>
<td>Changes</td>
<td></td>
<td>Why did you establish online shopping?</td>
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<td>How would you describe the developments in the market in recent years?</td>
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<td></td>
<td></td>
<td>Do you see opportunities / difficulties for further growth in online shopping?</td>
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Closure

<table>
<thead>
<tr>
<th>Category</th>
<th>Question</th>
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<tbody>
<tr>
<td>Discussion</td>
<td>Is there anything else you want to add?</td>
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References


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